dreadbox EREBUS Analog Synthesizers Instruction Manual

Contents

dreadbox EREBUS Analog Synthesizers Instruction

In the box you will find

- 3 x PCB boards
- The Aluminum panel
- A plastic bag with parts
- The metal enclosure
- A ribbon cable
- A DIN5 to 3,5mm MIDI Adapter

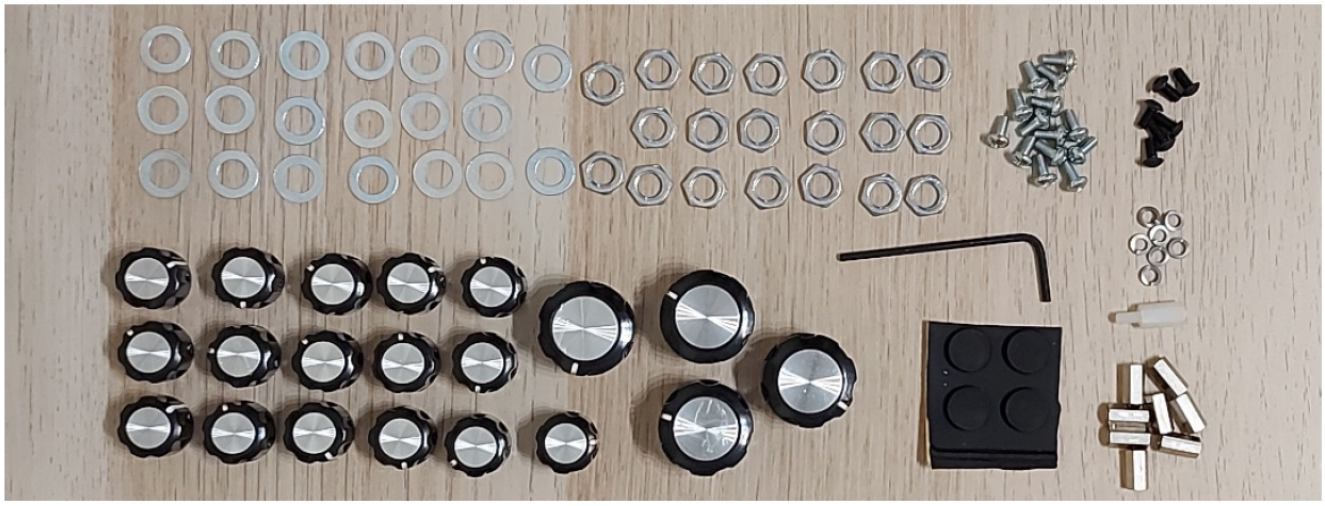
The plastic bag contains

- 16 small knobs
- 4 large knobs
- 4 rubber feet
- A 2mm hex driver
- 14 M3 brass bolts
- 6 M3 black bolts
- 8 metal spacers 10mm length M3
- 1 plastic spacer
- 6 washers M3
- 20 pot washers
- 20 pot nuts M10

Additionally, you will need to have

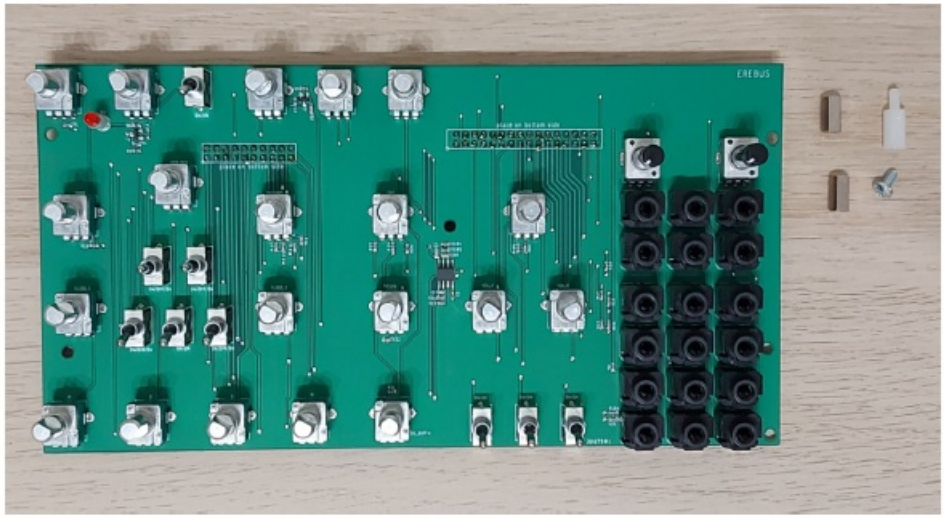
- A tuner
- A multimeter
- A 10mm HEX nut screwer
- A small straight screwdriver for trimming
- A larger straight screwdriver for the knobs
- A Philips PH1 screwdriver

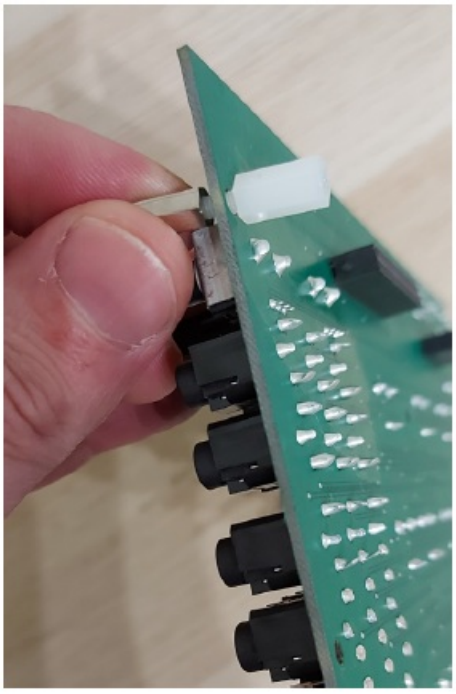
- A USB adapter at least 1A of power
- A good USB cable
- A mini jack 3,5mm to 6,4mm
- A few patch cables 3,5mm
- A couple of crocks connectors

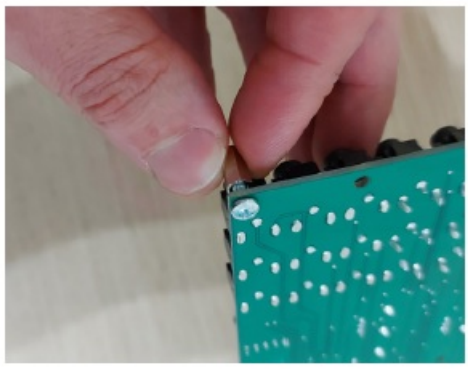


Step 1

Place the 2 bolts as shown in the picture, so that the spacers are facing on the components side.

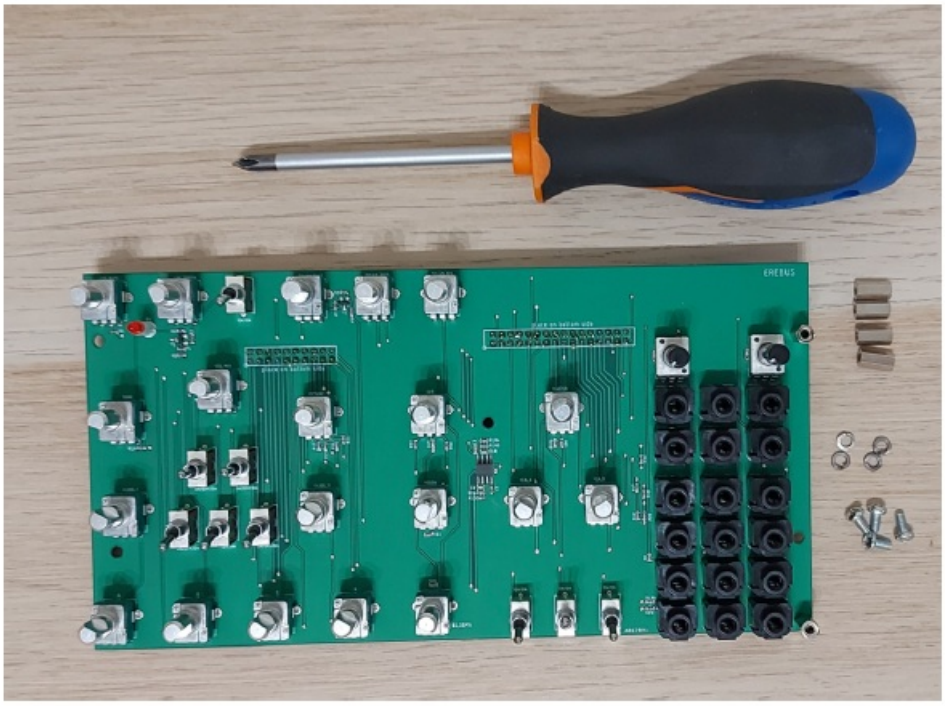


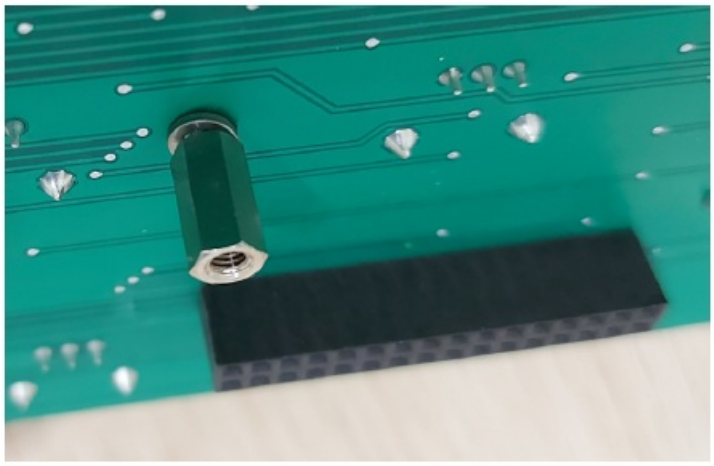




Step 2

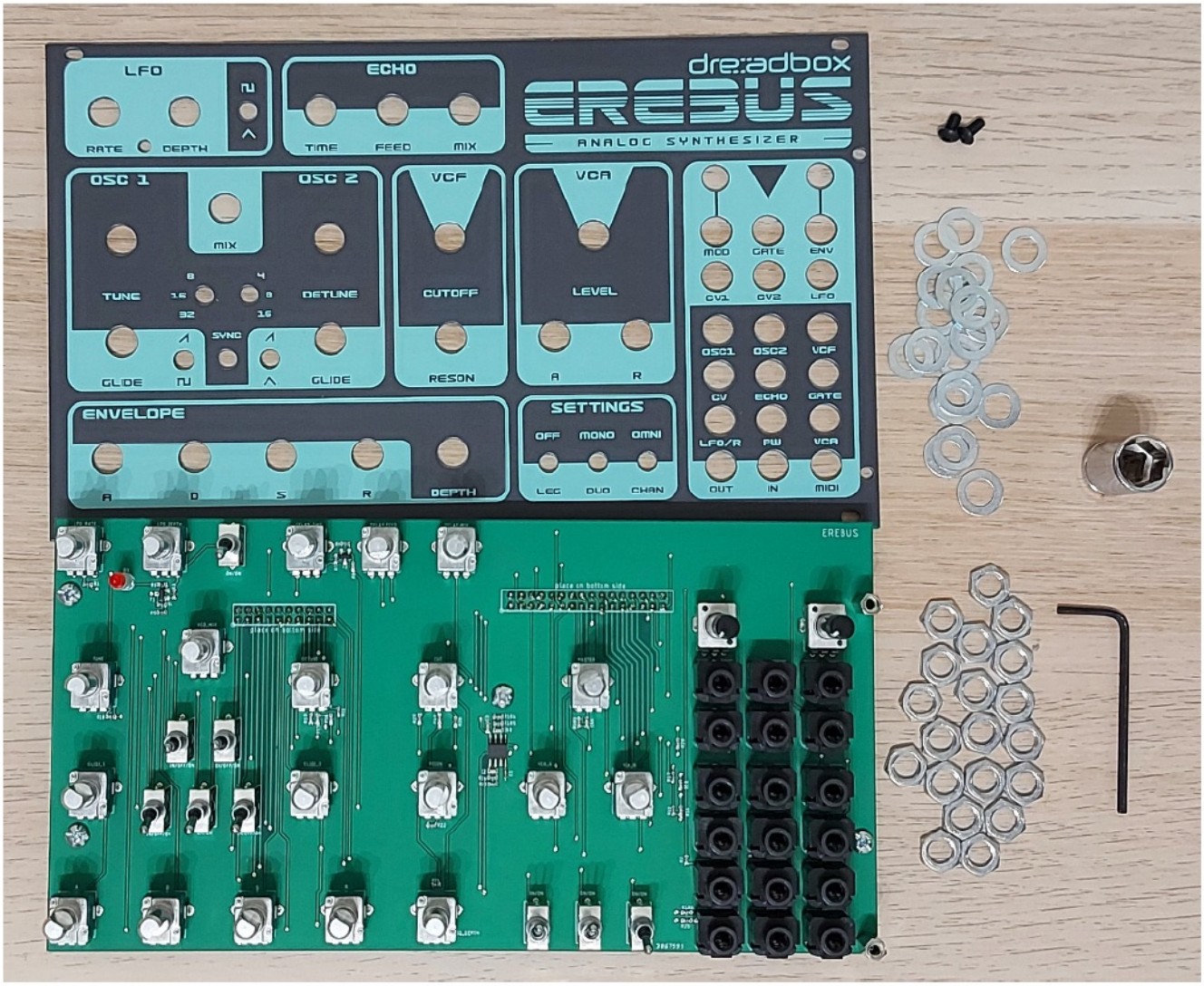
Place the 4 bolts as shown in the picture, so that the spacers are not facing on the components side.





Step 3

Connect the panel with the board. Place all nuts and washers as shown in the picture and then bolt the 2 black bolts. While doing this do not apply too much force.


LFO
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ANALOG SYNTHESIZER
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DETUNE
SYNC
GLIDE
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CUTOFF
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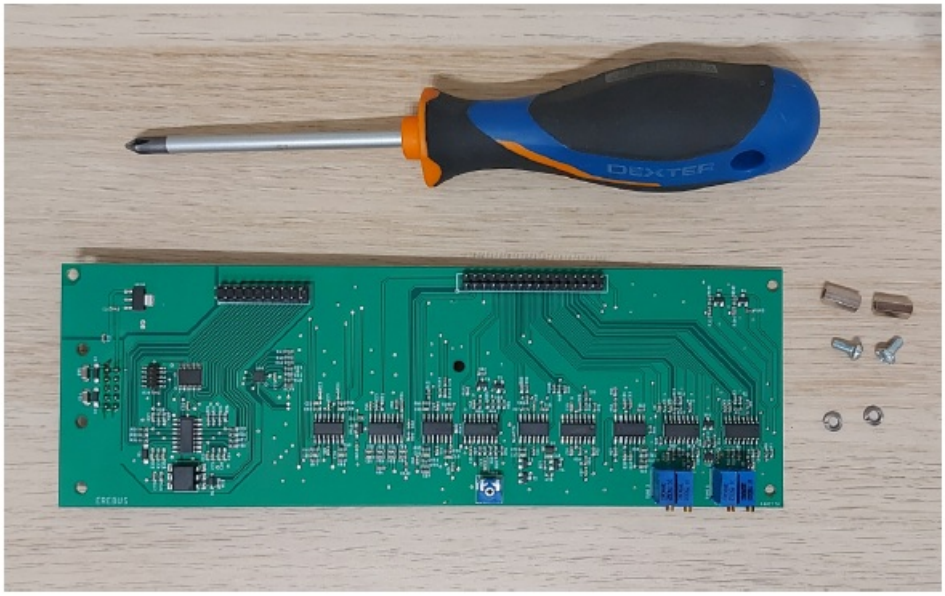
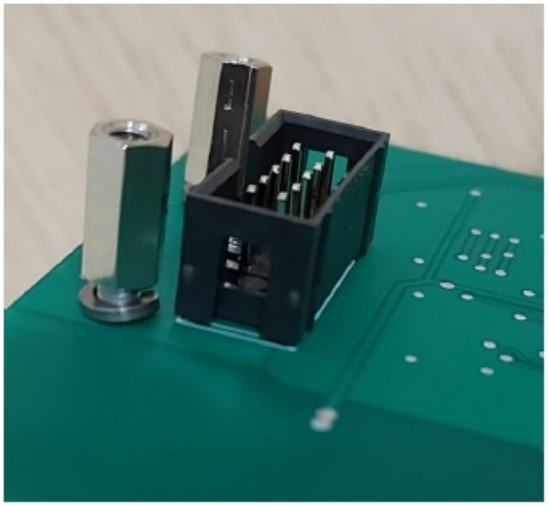
Step 4

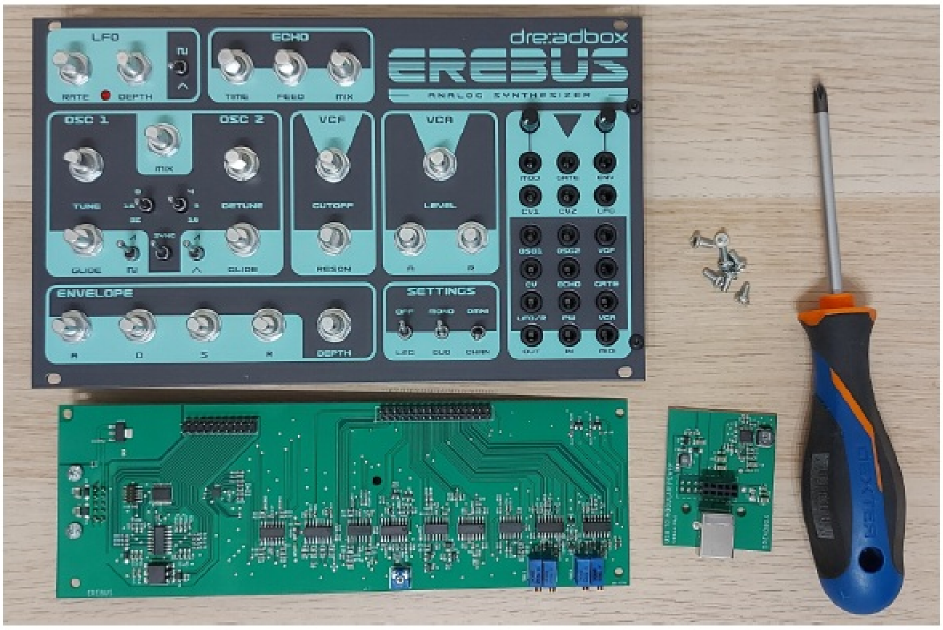
Prepare the bottom PCB by attaching the holders for the power board.





Step 5

Connect the three boards. Be careful not to bend the headers while you attach them. Then bolt them in place.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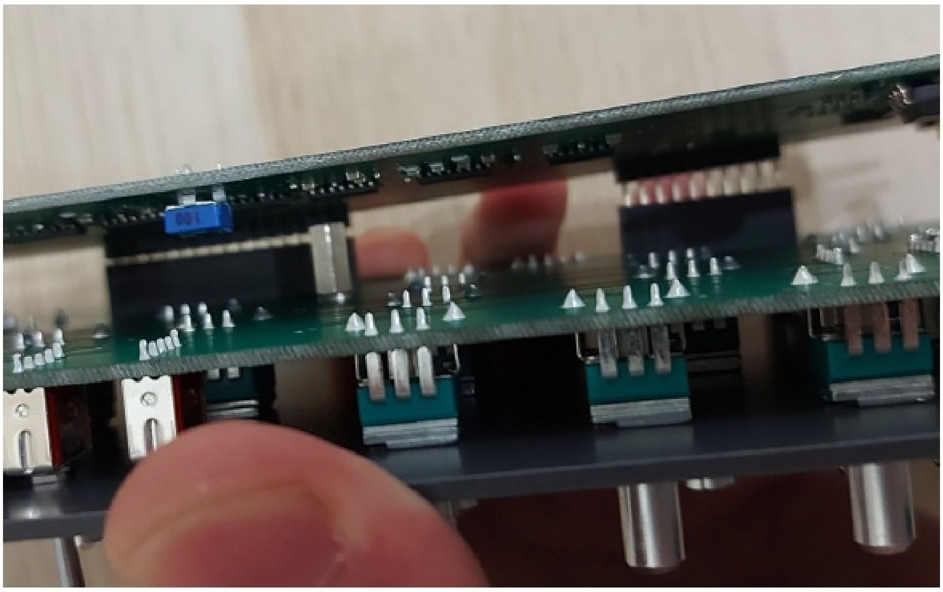
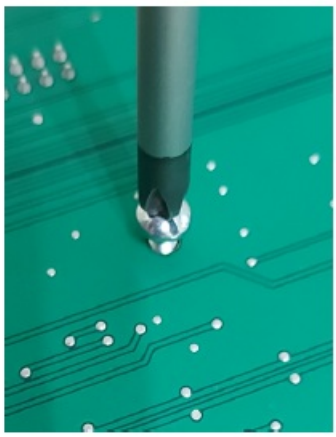
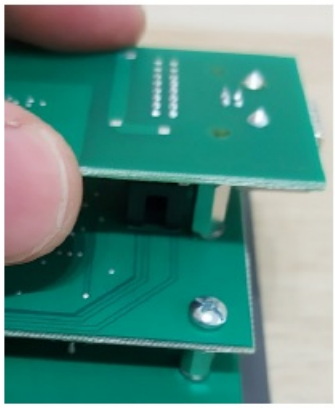
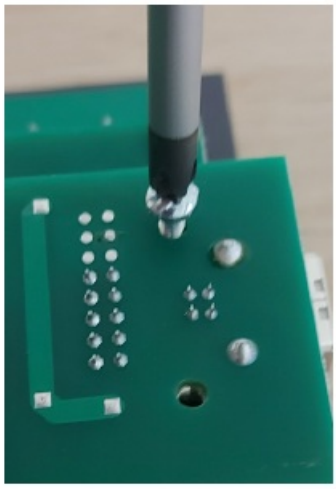




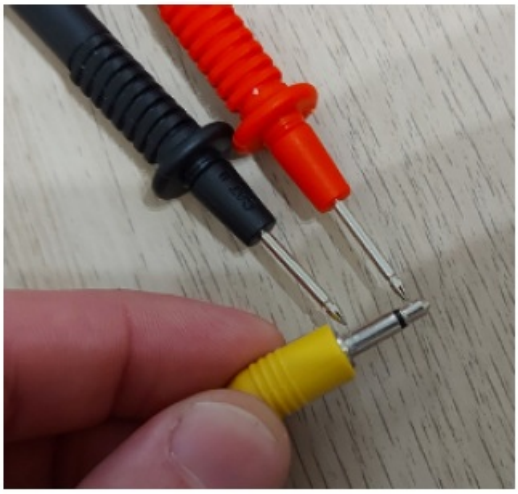




Step 6

Attach the knobs to the potentiometers. All knobs have a set screw to the side. Use the straight screwdriver to firm them tightly as shown in the picture.

Step 7 – Tuning



This is the most challenging part of the build. First thing you should do, is to prepare your workbench. Make sure that your working area is all cleaned up and we strongly suggest to use the foam to support the module.

1. Connect a patch cable to the CV1 output.
2. Use the crocks to connect the multimeter with the minijack as shown in the picture. The red goes to the tip and the black goes to the ground. Then turn the multimeter on to the DC voltage measurement.
3. Connect the module to a USB power source. IMPORTANT NOTE: To enter the calibration mode you must flip the OMNI/ CHAN switch 6 times in the first 10 seconds that the unit is powered.

4. After entering the calibration mode : – Set GLIDE 1, GLIDE 2, A, D, S, R knobs (from the Envelope) to about 50%. – Set the LEG/OFF switch to the OFF position
5. Tuning of CV1: – set the OSC1 octave switch to “32” – The multimeter will show a measurement of about 3 volts. Use the “GLIDE 1” knob to set it as close as possible to volts. The ideal voltage is 3.000mV (3V = 3000mV) but that is not always possible. You can allow a 0,010 offset with no problems. – Then set the octave 1 to “16”. The multimeter will show about 6 volts. This time use the GLIDE 2 knob to set it to 6.000 volts. – Then set the octave 1 switch to “8”. The multi meter will show about 9 volts. Use the A knob to set it to 9,000. IMPORTANT NOTE: After setting it up make sure not to touch these knobs again while in calibration mode, because the setting will be lost and you will need to run the process again.
6. Tuning of CV2: – Remove the patch cable from CV1 and connect it to CV2 . – set the OSC2 octave switch to “16” – The multimeter will show a measurement of about 3volts. Use the “D” knob to set it as close as possible to 3 volts. Ideal is 3,000 but that is not always possible. You can allow a 0,010 offset with no problems. – Then set the octave 2 to “8”. The multimeter will show about 6 volts. This time use the “S” knob to set it to 6.000 volts. – Then set the octave 1 switch to “4”. The multi meter will show about 9 volts. Use the “R” knob to set it to 9,000. IMPORTANT NOTE: After setting it up make sure not to touch these knobs again while in calibration mode, because the setting will be lost and you will need to run the process again.

7. While you are still on the calibration mode, set the LEG/OFF switch to LEG.
8. Remove the CV2 jack and the multimeter. We won't be needing these anymore.
9. Connect the OUT to the TUNER.
10. Set up the synth as follow

- DO NOT TOUCH THE ENVELOPE AND THE GLIDE CONTROLS!!!
- TUNE and DETUNE and MIX to exactly 50%
- Both VCO waves and SYNC at OFF
- Filter CUTOFF at 100%
- Filter Resonance at 0%
- All delay knobs at 0%
- LFO controls at 0%
- Amp A at 0%
- Amp R at 0%
- Amp level at max (or maybe lower if your tuner cannot accept too much volume)

Grab the trimming screwdriver. On the bottom side of the unit there are 4 trimmers, named "Scale1,"Tune1" and "Scale2","Tune2".

OSC1

- Set the OSC1 wave to SAW
- Press the octave 1 switch from "16" to "8" continuously. This action will switch the notes from A2 to A5, so that you can use them to tune the synth.
- While using the scale1 trimmer, try to have the exact same note each time the switch is flipping. It doesn't matter what the note is at that time , or if it is sharp or flat. You just need to have the same note.
- When the scale1 trimmer is set , use the TUNE1 trimmer to set the synth to the A. Make sure again that the envelope knobs have not been touched and that the TUNE knob of the oscillator is at 50%.

OSC2

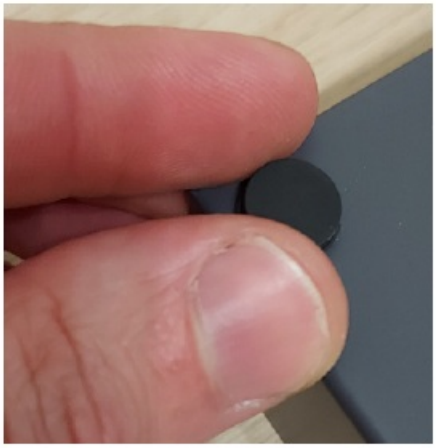
- Set the OSC1 wave to OFF and OSC2 wave to SAW
- Press the octave 1 switch from “8” to “4” continuously.This action will switch the notes from A1 to A4, so that you can use them to tune the synth.
- Using the scale2 trimmer try to have the exact same note each time the switch is flipping. It doesn’t matter what the note is at that time or if it is sharp or flat. You just need to have the same note.
- When the scale2 trimmer is set , use the TUNE2 trimmer to set the synth to the A. Make sure again that the envelope knobs have not been touched and that the TUNE knob of the oscillator is at 50%.
- OSC2 should be one octave higher than OSC1!

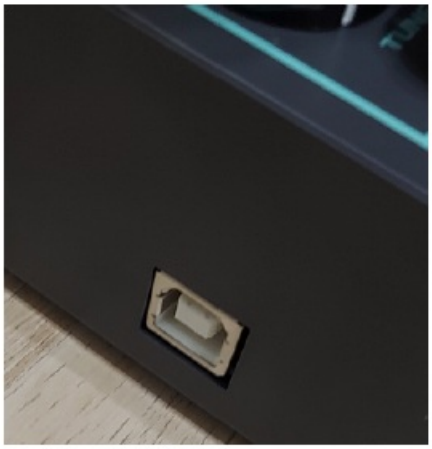
IMPORTANT NOTE: To save this process you must flip the OMNI/CHAN switch again 6 times. Then you can power the synth off and finish the assembly.

Null the clicking noise from the VCA each time it is triggered: -Power up the synth again, but not in the calibration mode. -Connect the LFO out to GATE in. -Then set the synth as follow: Both OSC wave switch OFF (mid position), FILTER CUTOFF at 50%, RESONANCE at 0%, AMP A and R at 0%, MASTER at 100%, LFO DEPTH at 75%, LFO RATE at 50-60% (should be about 0,5 sec/ circle), and all DELAY controls at 0%. -Get the OUTPUT to a monitor. Now observe that each time the VCA is triggered, a small pop occurs. Use the trimmer located at the bottom side “VCA CLICK” to set it, so that the click is as low as possible in volume.

Step 8

Finalize the build by attaching the module to the enclosure. Attach the rubber feet, and then place the module into it. Make sure that the USB adapter is placed properly and then bolt the module into place with the 4 black bolts.





Documents / Resources

	dreadbox EREBUS Analog Synthesizers [pdf] Instruction Manual EREBUS Analog Synthesizers, EREBUS, Analog Synthesizers, Synthesizers