

Gotharman's MiniProphet

Pro-One clone with extras in Eurorack Modules



User Manual

Thank you very much for purchasing / consider to purchase my MiniProphet eurorack modules.

Please read this manual before setting up your MiniProphet, to avoid malfunction caused by wrong handling.

Foreword

I once had a Sequential Pro One, that I was very happy with. It is a very great sounding and versatile synth. Problem with it was, that it was very unstable, and I felt like I spend more time repairing it, than playing on it, and I certainly did not dare to use it live (but I did wanted to).

Therefore I designed the first MiniProphet desktop. A small easy portable package, that was very easy to bring for live shows, and since all parts except for the special CEM chips were completely new, it was much more stable than the original one.

A MIDI to CV interface were built in for easy connection to a keyboard, and an extra filter were added for more sonic experimentation.

A while after I had sold all the 3 MiniProphet desktops that were built, and I started to make a new one for myself, I got the idea, to try to make it in eurorack format, to get this great sound, with even more flexibility.

MiniProphet EuroRack was born....

Gotharman, July 2014

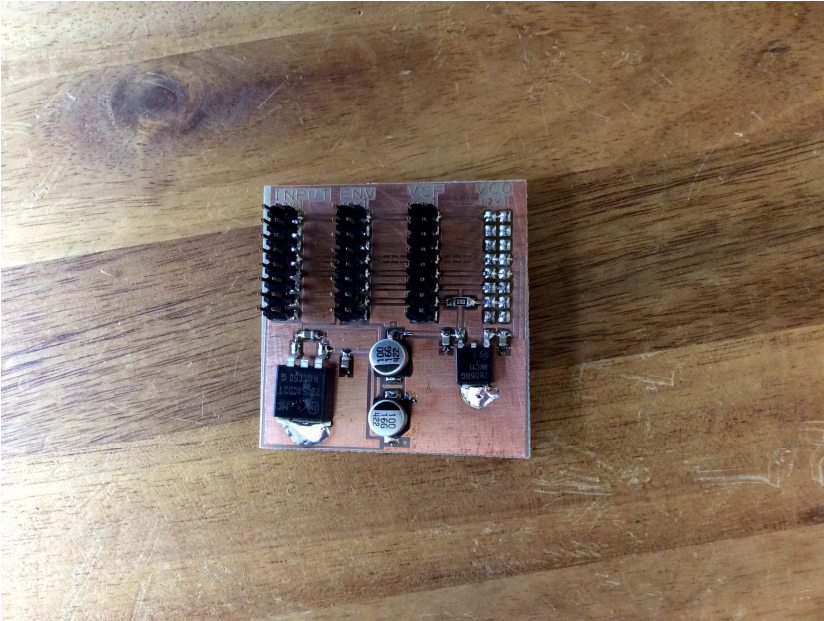
1 double ADSR Envelope module



1 double LFO module



1 Power Board



4 pcs 16 pole flatcables with connectors 30 cm long for power connections.

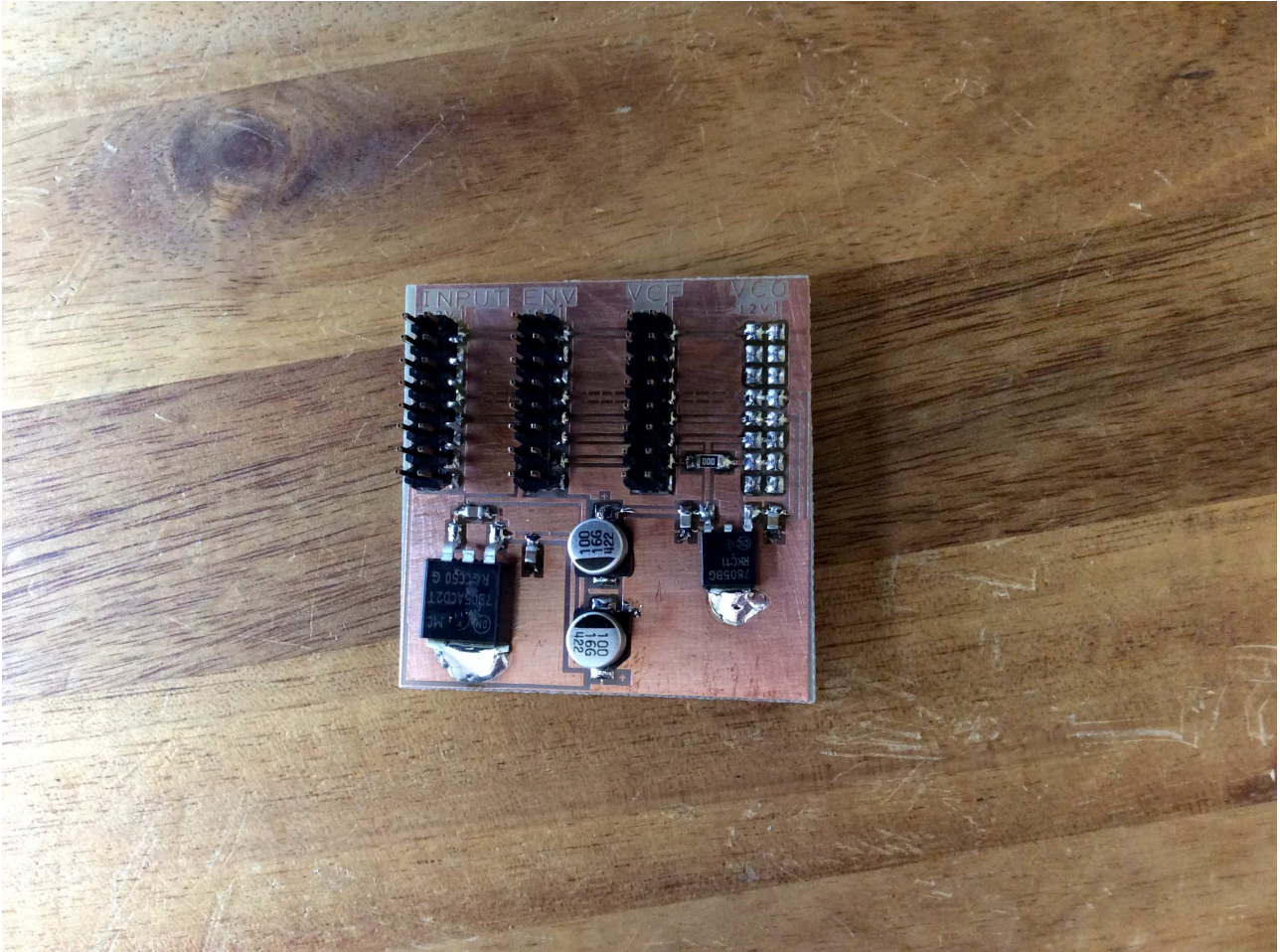
2 pcs 10 pole flatcables with connectors for internal connections.

The cables will come with one end attached to some of the modules.

Make sure to locate all of these items. If something is missing, please get in touch with Gotharman.

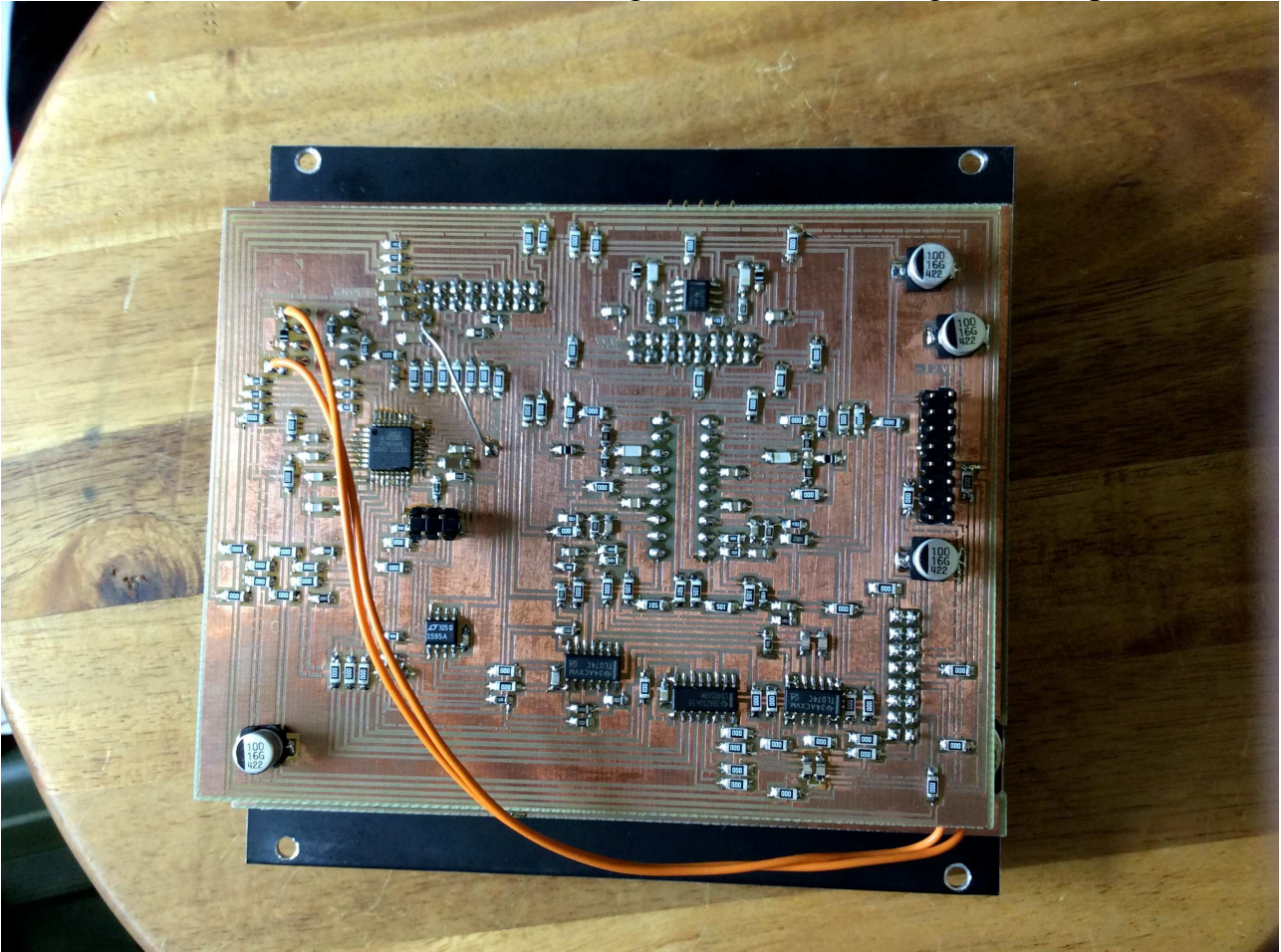
Preparing MiniProphet

First, locate the Power Board. It should look like this:

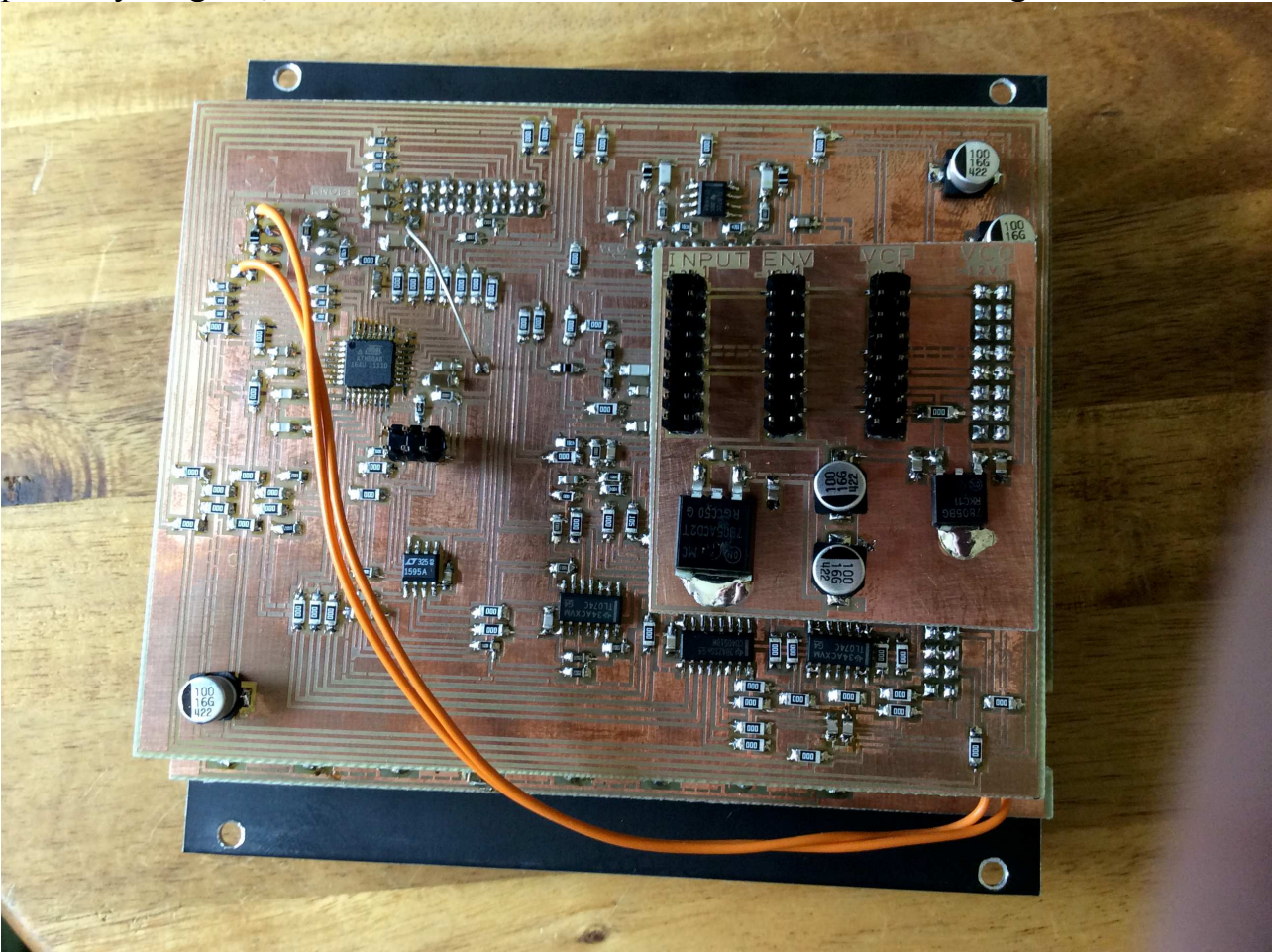


The PowerBoard supplies MiniProphet's VCO's, VCF's and envelopes with an additional +/- 5 volts. It does not need to be connected to the LFO's.

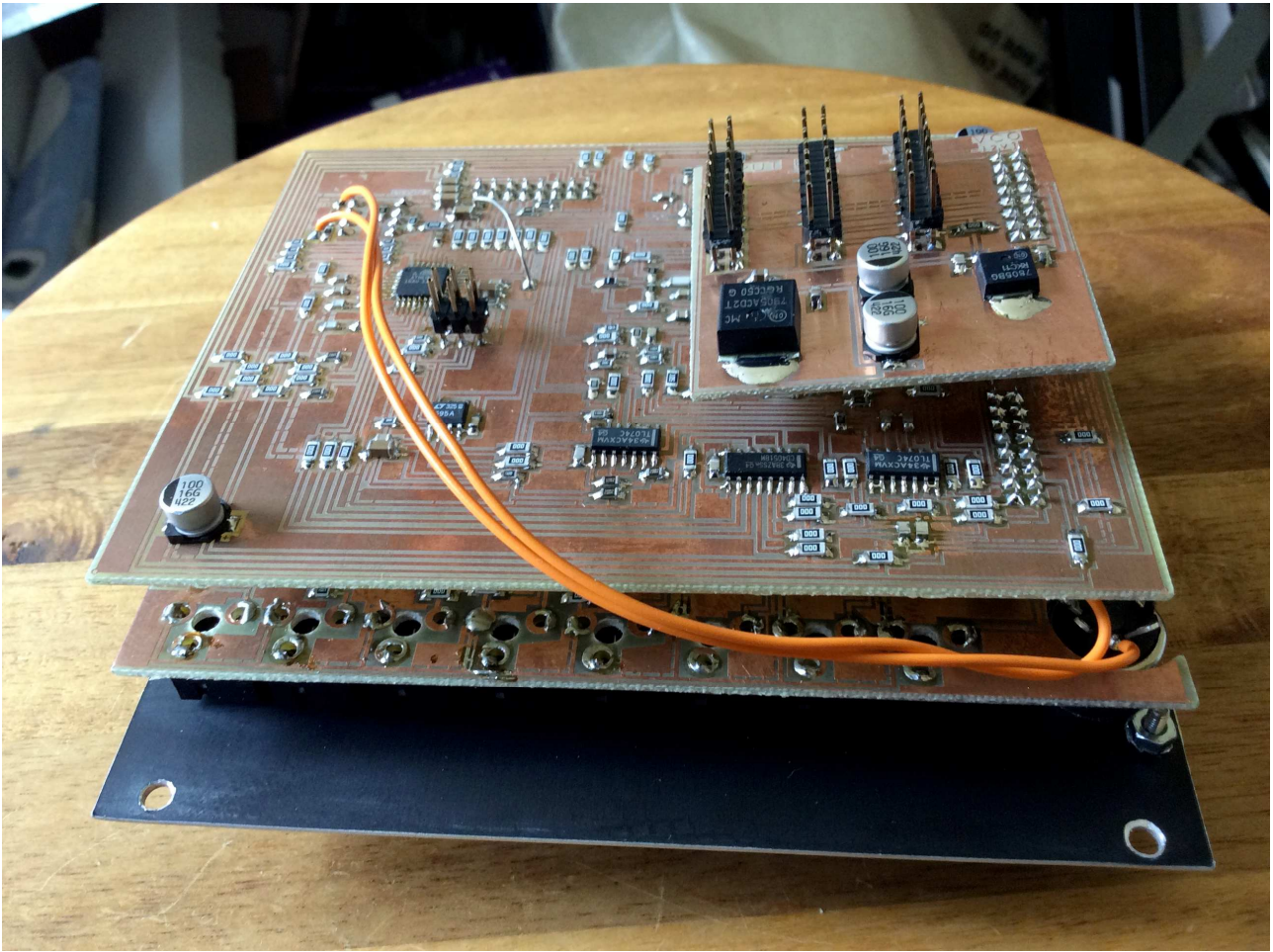
Then locate the double VCO module, and place it with its faceplate facing down:



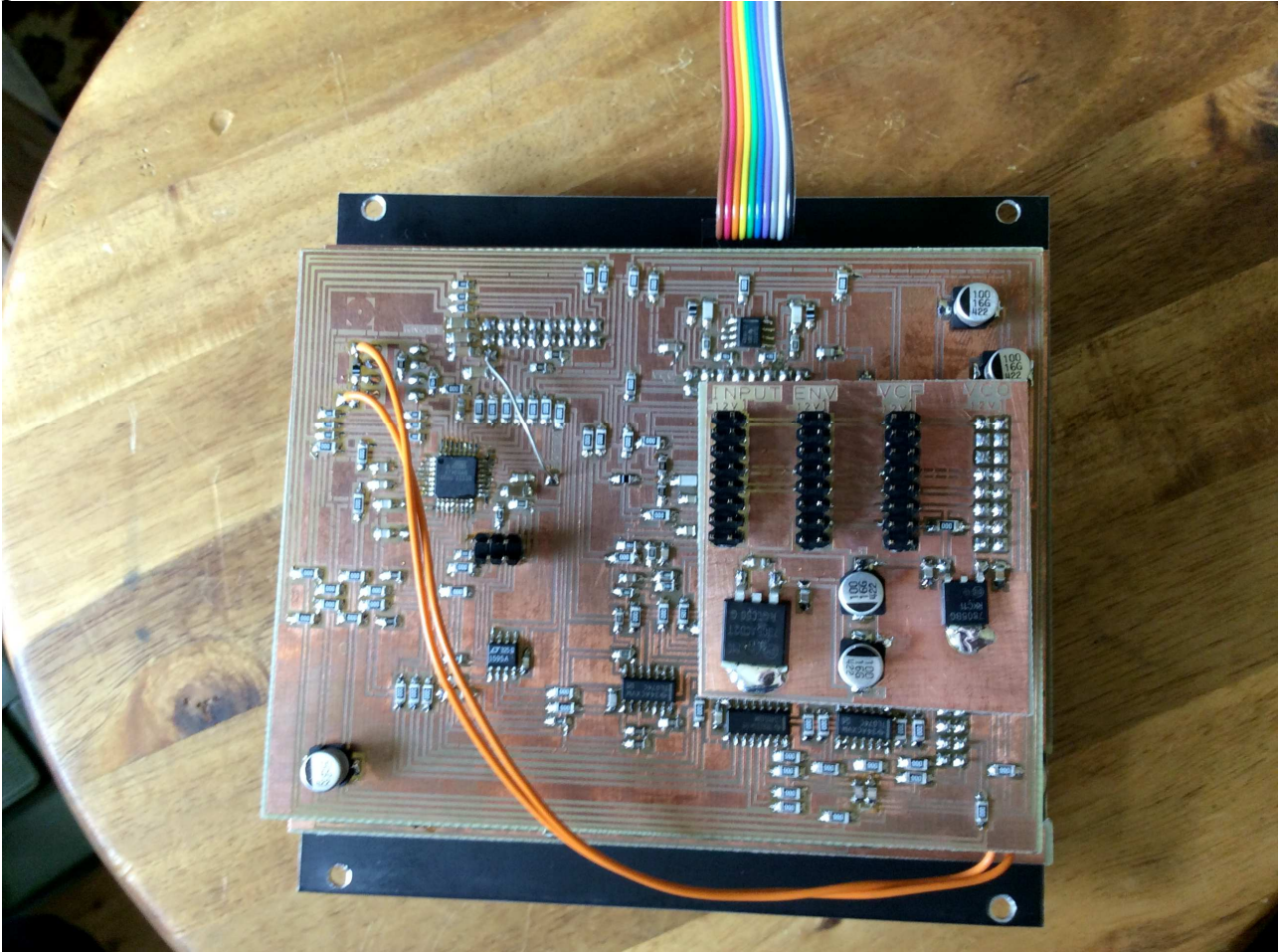
Now, mount the PowerBoard on the power connector of the double VCO module, using the 16 pin receptable header on the powerboard. Make sure that all 16 pins are perfectly aligned, and that the "-12V" marks on both boards are aligned too.



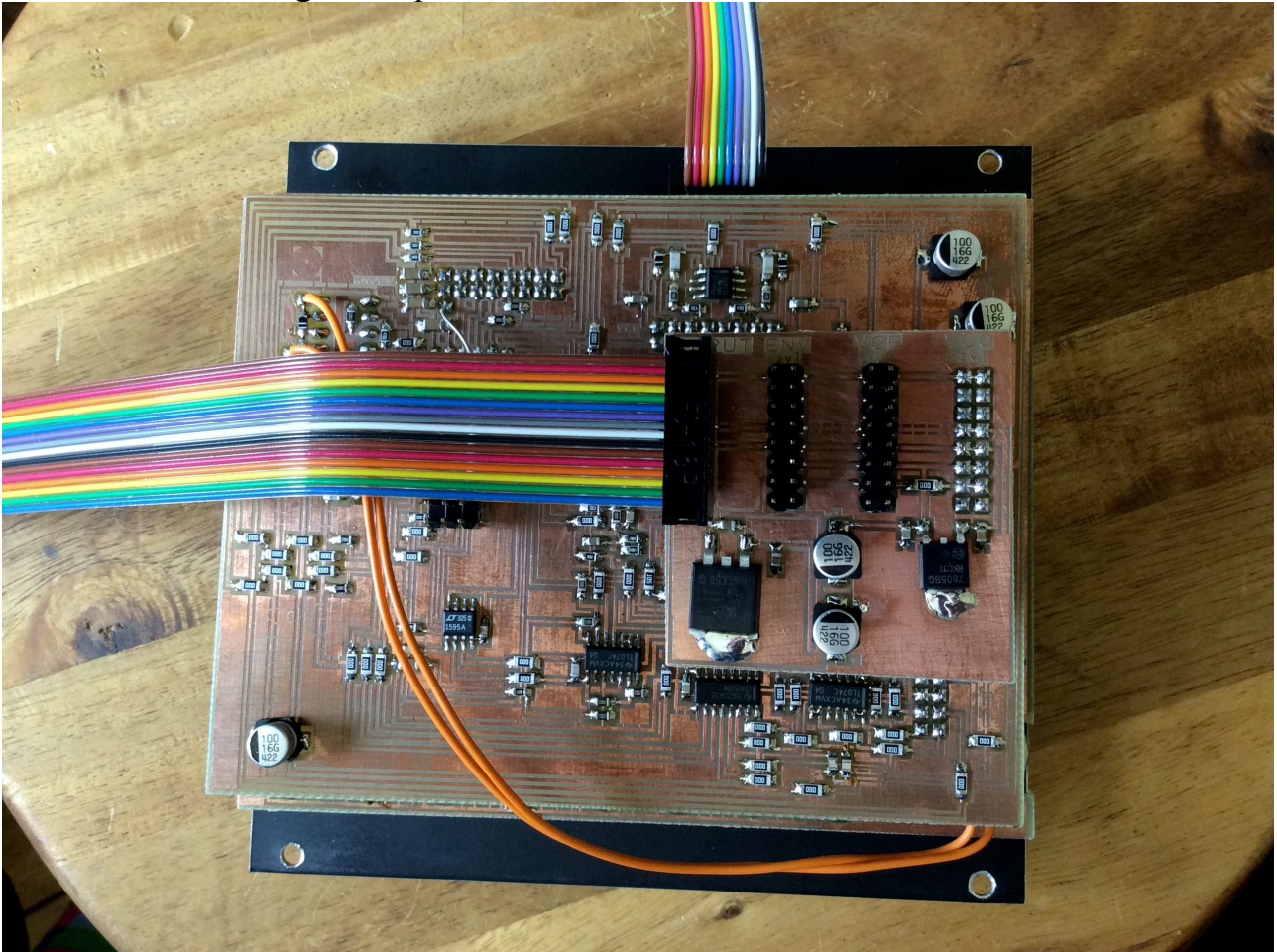
Bottomview of the PowerBoard mounted on the double VCO:



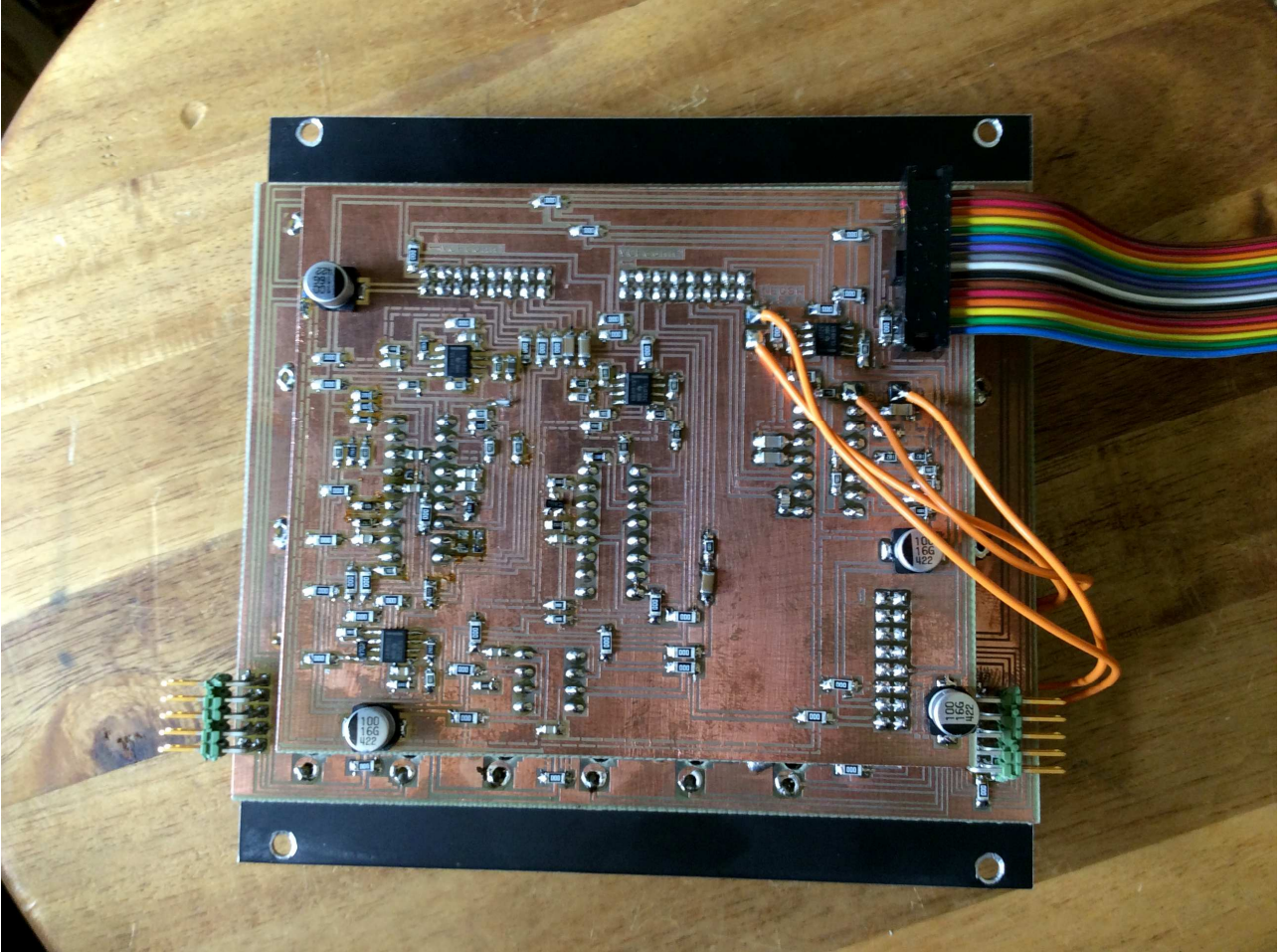
Mount one of the 10-pole flatcables to the 10 pin connector on the top side of the double VCO module (this cable might come mounted). Make sure that all 10 pins are perfectly alligned, and that the brown cable are alligned to the same side as on the picture:



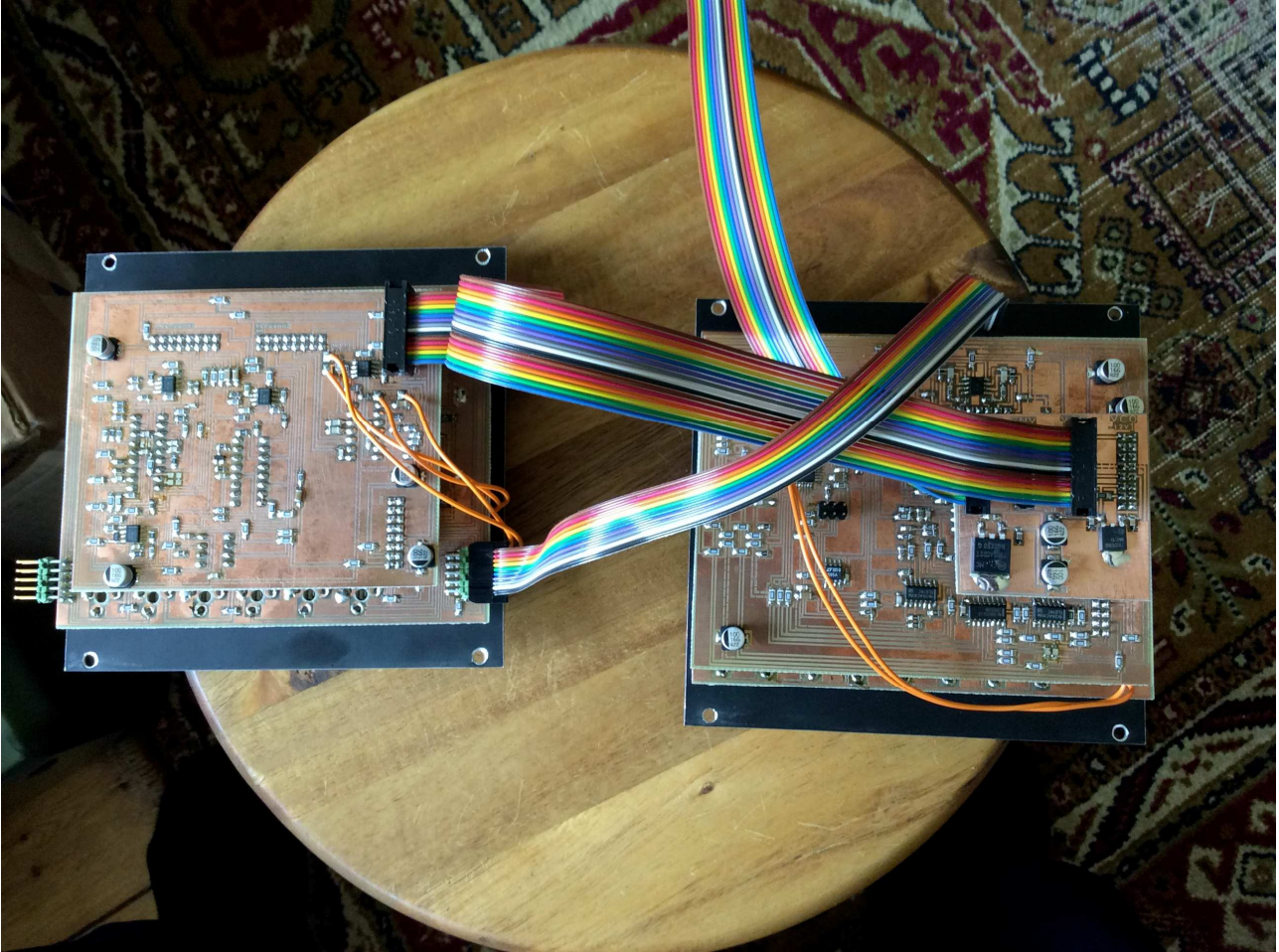
Mount one of the 16-pole power flatcables on the connector on the PowerBoard marked "INPUT" (this cable might come mounted). Make sure that all of the 16 pins are perfectly alligned, and that the brown cable are alligned to the same side as on the picture (to the "INPUT" mark on the PCB). When you mount MiniProphet in your Eurorack system, this cable should be connected to your Eurorack power bus, with the brown cable alligned to pin 1 – minus 12 volts.



Place the double VCF module with the faceplate facing down. Mount one of the 16-pole power flatcables on the powerconnector of this module (this cable might come mounted). Make sure that all of the 16 pins are perfectly aligned, and that the brown cable are aligned to the same side as on the picture (to the "-12V" mark on the PCB).

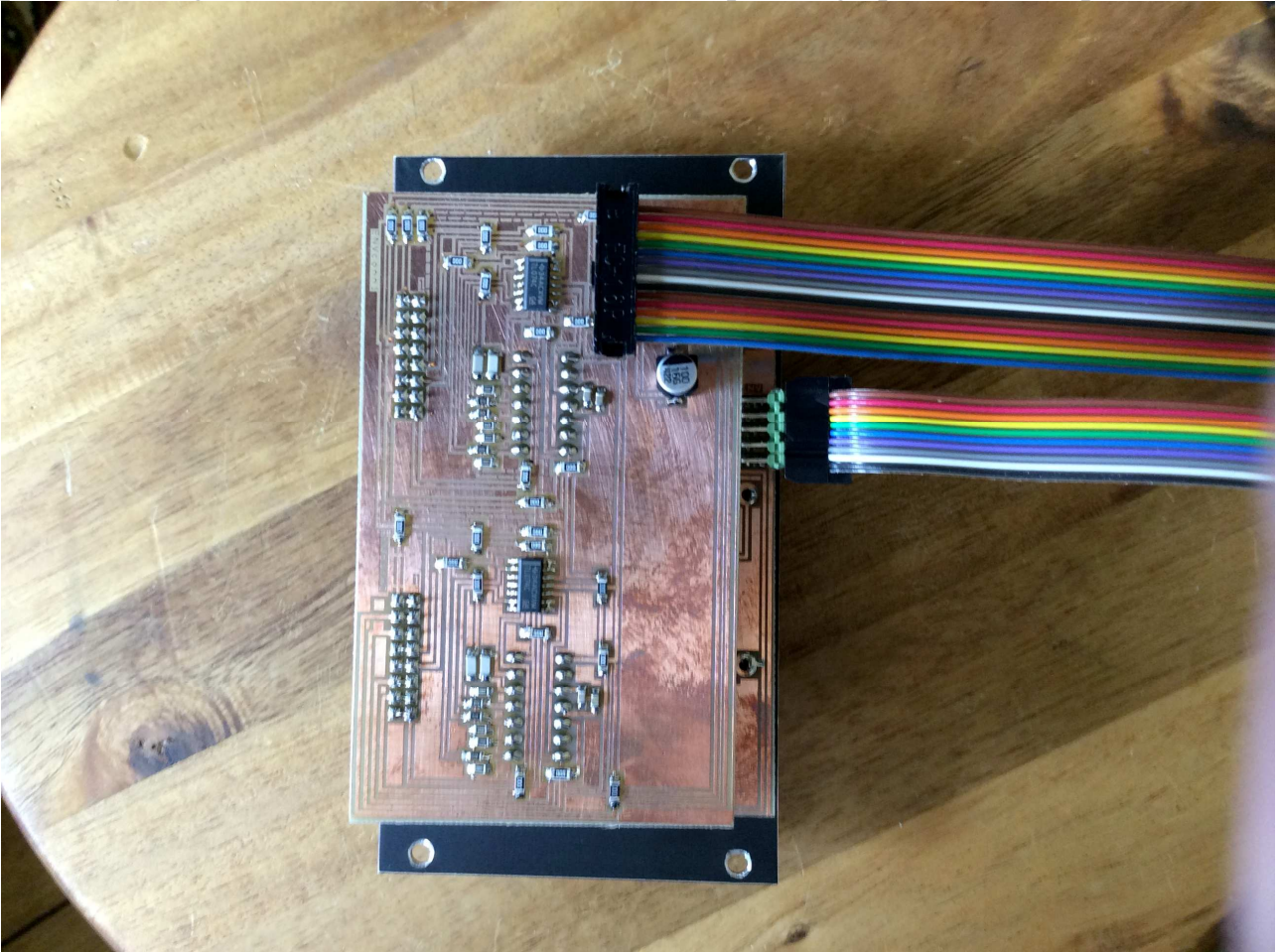


Connect the VCF power cable to the connector on the PowerBoard marked "VCF". Make sure that all of the 16 pins are perfectly aligned, and that the brown cable are aligned to the same side as on the picture (to the "VCF" mark on the PowerBoard). Connect the 10 pole flat cable from the VCO to the 10 pin connector on the right side of the VCF. Make sure that all of the 10 pins are perfectly aligned, and that the brown cable are pointing up, like on the picture.



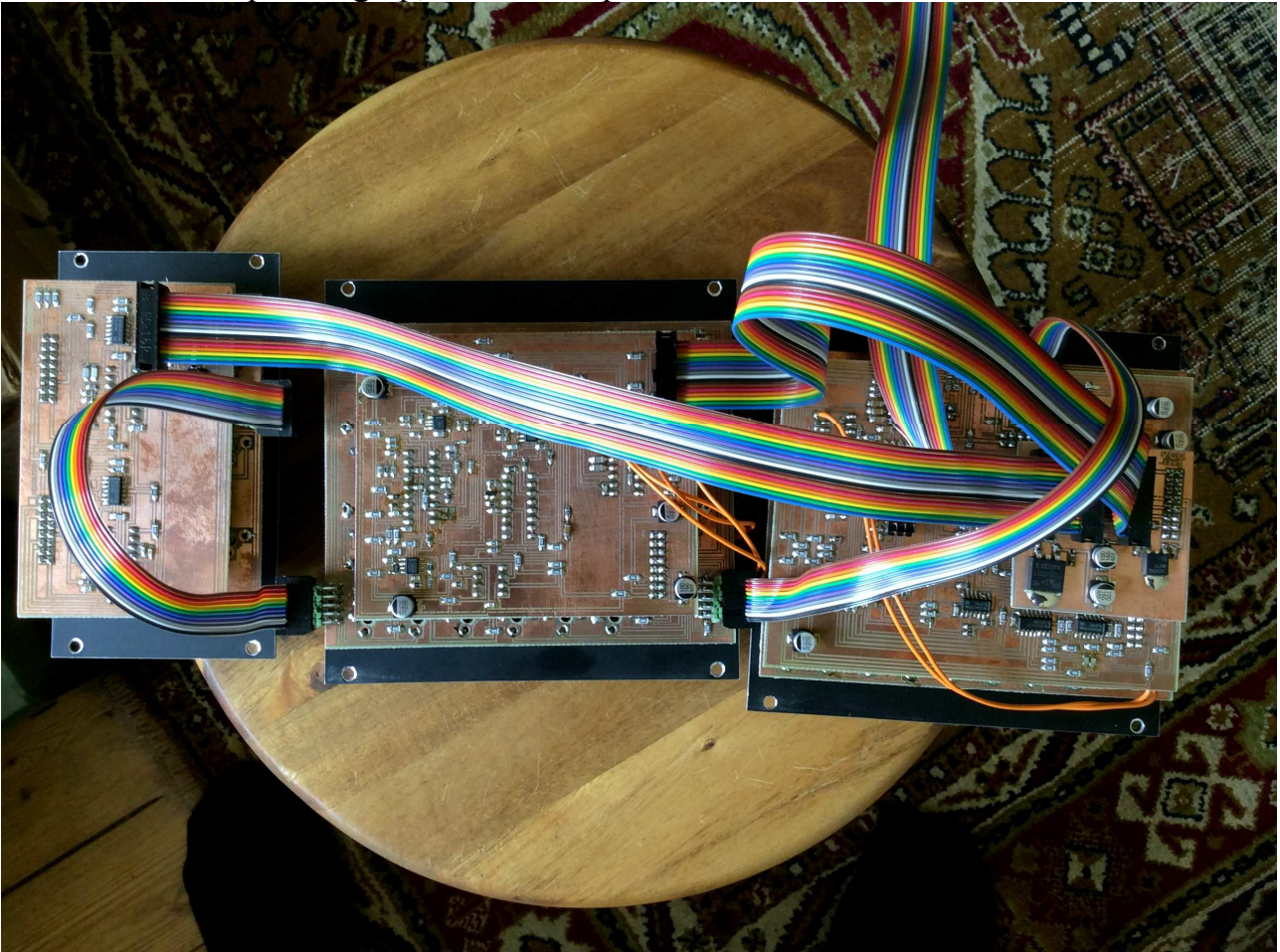
Place the double Envelope module with the faceplate facing down. Mount one of the 16-pole power flatcables on the powerconnector of this module (this cable might come mounted). Make sure that all of the 16 pins are perfectly aligned, and that the brown cable are aligned to the same side as on the picture (to the "-12V" mark on the PCB).

Mount the last 10-pole flatcable to the 10-pin connector on the right side of this module (this cable might come mounted). Make sure that all of the 10 pins are perfectly aligned, , and that the brown cable are pointing up, like on the picture.



Connect the Envelope power cable to the connector on the PowerBoard marked "ENV". Make sure that all of the 16 pins are perfectly alligned, and that the brown cable are alligned to the same side as on the picture (to the "ENV" mark on the PowerBoard).

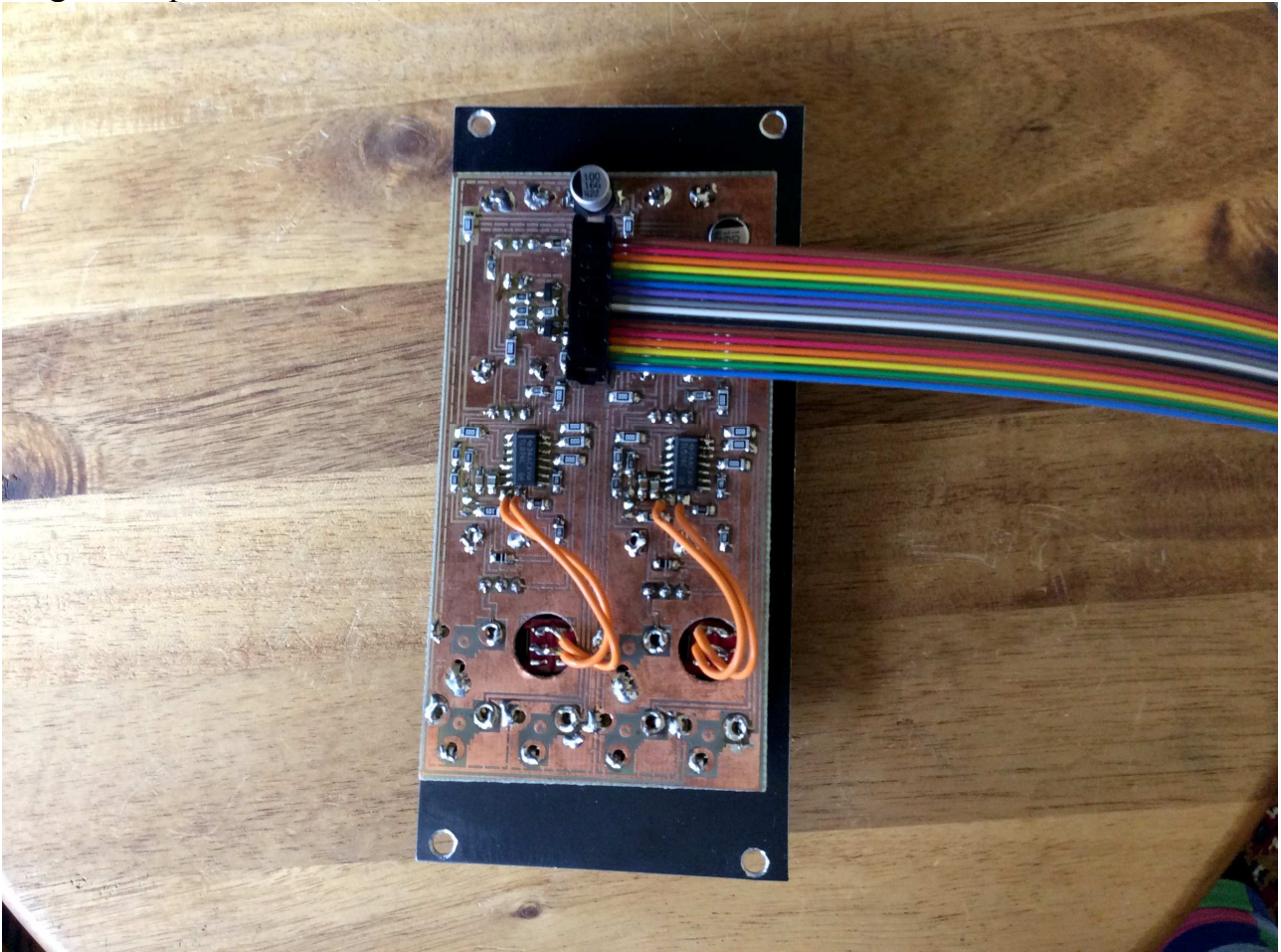
Connect the 10 pole flat cable from the Envelope to the 10 pin connector on the left side of the VCF. Make sure that all of the 10 pins are perfectly alligned, and that the brown cable are pointing up, like on the picture.



Your MiniProphet system are now ready to be installed in your Eurorack case. Connect the "Input" power flatcable to the power bus of your eurorack case, with the brown cable alligned to pin 1 or -12V. Mount these 3 modules.

Place the double LFO module with the faceplate facing down. Mount the last one of the 16-pole power flatcables on the powerconnector of this module (this cable might come mounted). Make sure that all of the 16 pins are perfectly aligned, and that the brown cable are aligned to the same side as on the picture (to the "-12V" mark on the PCB).

Connect this flatcable to the power bus of your eurorack case, with the brown cable aligned to pin 1 or -12V, and mount the double LFO module.



Your MiniProphet system should now be ready to use.

Inputs and Outputs of the modules

The Double VCO



Inputs:

Midi In – 5 pole DIN connector. Connect the MIDI out of a MIDI keyboard, a MIDI sequencer, or any other MIDI device capable of transmitting notes and CC's, to this. MiniProphet only receives Note on and off's, pitch bend and modulation wheel messages on MIDI channel 2.

CvA – VCO A pitch modulation. Connect any voltage generating source to this. The CvA knob adjusts the amount of modulation.

FM – VCO A linear FM. Connect any voltage generating source to this. The FM knob adjusts the amount of FM. When nothing is connected to this, the Triangle output of VCO B are internally connected to it.

PwmA – VCO A pulsewidth modulation. Connect any voltage generating source to this. The PwmA knob adjusts the amount of modulation.

Cv1B, Cv2B – VCO B pitch modulation. Connect any voltage generating source to these. The Cv1B and Cv2B knobs adjust the amount of modulation.

PwmB – VCO B pulsewidth modulation. Connect any voltage generating source to this. The PwmB knob adjusts the amount of modulation.

Outputs:

Velo/Rndm – This outputs a new velocity or random voltage between 0 and 5 volts, according to the Rndm/Velo switch, every time a MIDI note on is received on MIDI channel 2.

Gate – Outputs a 5 volt gate voltage, every time at least one MIDI note is active. When no MIDI notes are active, it outputs 0 volts. This can be used to trigger envelopes.

Kybd – This outputs the latest received MIDI note on's note number, as a voltage between -5 and +5 volts, 1V/Oct.

ModWh – This outputs the latest received modulation wheel value, as a voltage between 0 and 5 volts.

SquA, TriA, SawA, SawB, TriB, SquB – VCO A and B waveform outputs.

Buttons:

Trig – Pushing this will make the Gate output, outputting a trigger. When the 10 pole "Internal" flatcables are connected, it will send a trigger to the double Envelopes.

Sync – Pushing this will toggle between VCO synchronization on and off. When the LED is lit, it is on, and VCO A synchronizes to VCO B.

The Double VCF



Inputs:

SquA, TriA, SawA, SquB, TriB, SawB – Double filter input mixer. Connect any audio signals you want routed through the 2 filters, to these. The respective knobs controls the audio signal levels. When nothing are connected to these, the outputs of VCO A and B are internally connected to them.

Cv1 – VCF 1 and 2 CutOff frequency modulation. Connect any voltage generating source to this. The Cv1 knob adjusts the amount of modulation. This modulation applies to both VCF1 and 2 at the same time. When the "Vcf2" switch are in the "Inv" position, the modulation of VCF2 are inverted to the modulation of VCF1.

Cv2(env2) – VCF 1 and 2 CutOff frequency modulation. Connect any voltage generating source to this. The Cv2 knob adjusts the amount of modulation. This modulation applies to both VCF1 and 2 at the same time. When the "Vcf2" switch are in the "Inv" position, the modulation of VCF2 are inverted to the modulation of VCF1.

When nothing is connected to this, the output of Envelope 2 are internally connected to it.

VcaCv(env1) – Output VCA level modulation. Connect any voltage generating source to this. When nothing is connected to this, the output of Envelope 1 are internally connected to it.

Vca In2 – Usually Filter 1 and 2 goes out through the output VCA. Filter 1 and 2 knobs adjusts the level of each filter. If you however would like Filter 2 to be replaced by another audio source, you may connect it to this input.

Outputs:

Flt2out – The direct output of Filter 2, before the VCA.

Output – The total audio output from the VCA, adjusted by the Filter 1 and Filter 2 knobs, and the VcaCv.

The Double Envelope



Inputs:

Gate – Triggers the 2 envelopes to start from zero, and go through the ADSR stages.

Outputs:

Env1, Env2 – Envelope 1 and 2 voltage outputs.

The Double LFO



Inputs:

Cv – LFO Rate modulation. Connect any voltage generating source to this. The Cv knob adjusts the amount of modulation.

Outputs:

Tri, Squ – Triangle and square wave outputs. The rate of these can be adjusted using the Rate knob and the Rate Cv input. The symmetry of the waveforms can be adjusted using the Sym knobs.

Internal Connections

If you have connected the 2 10-pole flatcables, as described earlier in this manual, MiniProphet will have some internal connections. These are cutted off, by plugging something in to their respective inputs.

List of internal connections:

- All 6 oscillator output waveforms are internally connected to the filters input mixer.
- The envelope gate, from the MIDI interface and the trigger button, are internally connected to the envelopes gate input.
- The output of envelope 1 are connected to VCA CV.
- The output of envelope 2 are connected to the VCF CV2.
- VCO2 triangle output are connected to VCO1 FM input.

www.gotharman.dk