VOYAGER SMD V1 – ASSEMBLY GUIDE

This document will help you to build your module without any trouble! We will give the order in which the components should be placed on the boards to make your life easier during assembly.

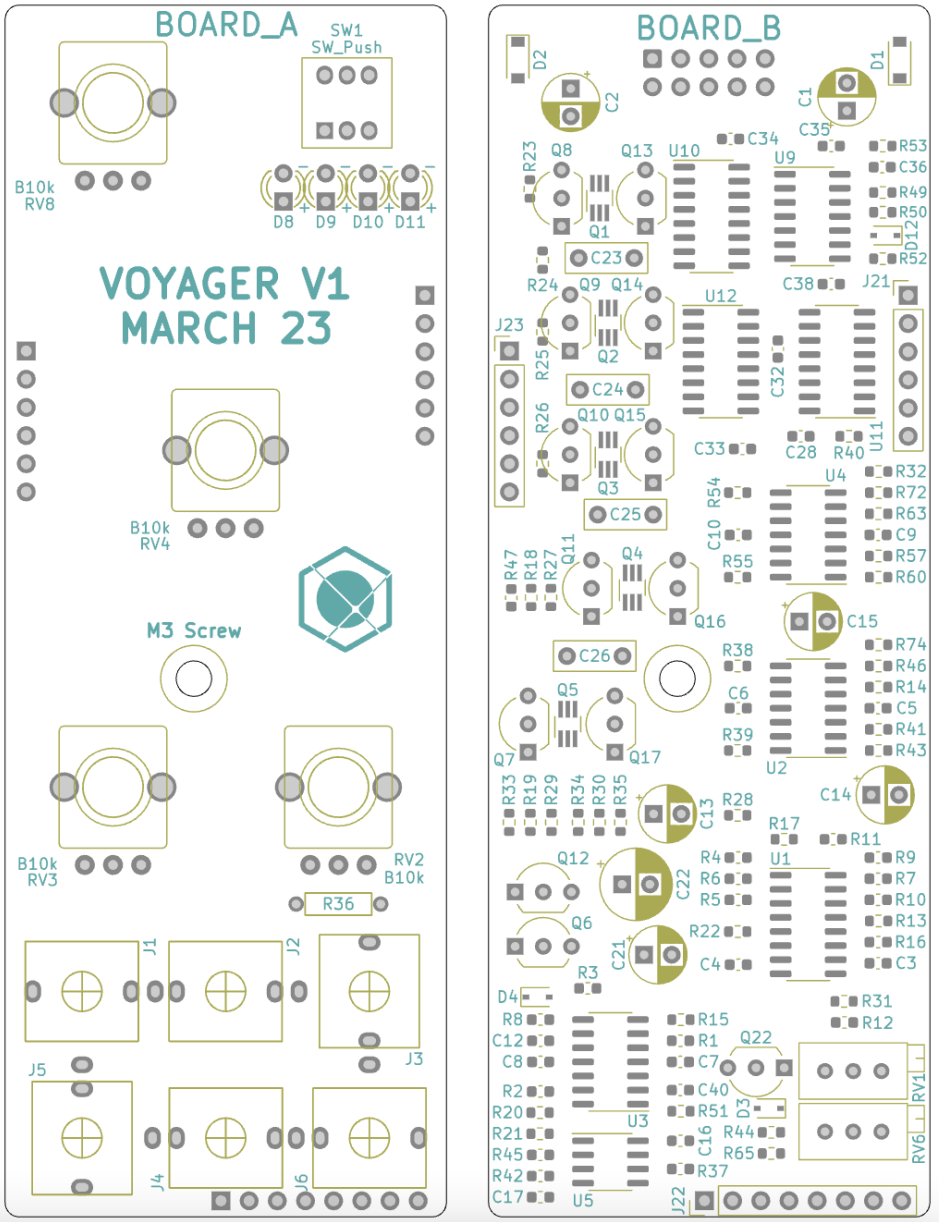
If you want more information about how to build Eurorack modules and what tools you should have, go check our DIY electronics advice on our website: **somethingmodular.fr**

We also made an **online interactive BOM** so you can check components placement.

And again:

THANKS YOU FOR CHOOSING OUR KIT!! YOU'RE AWESOME!!

Now let's build this module, your module!



Let's start by working on board B :

CAPACITORS

For best performance, use Polyester Film type capacitors.

Qty	Value	Code	Reference designator
4	33n	333	C23, C24, C25, C26

TRANSISTORS

Be sure they are orientated correctly. TO-92 packages have a flat side and a curve side that must match the silkscreen outline on the PCB.

Qty	Value	Reference designator
12	2N3904	Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17
1	2N3906	Q22

ELECTROLYTIC CAPACITORS

Electrolytic Capacitors are **Polarized!**
Mind the polarity : the long leg is the positive lead, negative lead is denoted by a white line.

As C22 is a pretty big capacitor, you might need to bend each lead 90° before soldering to make it fit between the 2 PCBs.

Qty	Value	Package	Voltage	Reference designator
6	10µF	D5.0 * P2.0	≥ 25 V	C1, C2, C13, C14, C15, C21
1	220µF	D6.3 * P2.5	≥ 10 V	C22

TRIMMERS

Solder the trimmers with the screw facing out from the edge of the PCB.

Qty	Value	Package	Reference designator
2	100k	3296X	RV1, RV6

POWER CONNECTOR

This component should be soldered on the back of the PCB. Mind pin 1.

Congratulation, You have just completed the first part of the job, now put Board B aside and let's work on Board A :

RESISTORS				
Qty	**Value**	**Color**	**Code**	**Reference designator**
1	100k		Brown, black, black, orange, brown	R36

READ THIS BEFORE SOLDERING POTS, JACKS, SWITCH AND LEDS:

Install potentiometers, mini-jacks, switch and LEDs onto board A without soldering. Now place the front panel, secure few components (top potentiometer and bottom jacks for example). Place the LEDs through the holes in the Front Panel. Check for any mechanical stress on components, PCB or panel. If there is none then you can solder.

Remember to do this little routine every time you put front panel components, soldering without putting the front panel components first you risk to have hard time to align the components to the panel holes.

3.5mm JACK SOCKETS		
Qty	**Value**	**Reference designator**
6	PJ301M-12	J1, J2, J3, J4, J5, J6

POTENTIOMETERS - ALPHA 9MM POTS		
Qty	**Value**	**Reference designator**
4	10k linear	RV2, RV3, RV4, RV8

TACTILE SWITCH		
Qty	**Package**	**Reference designator**
1	DPDT 7x7	SW1

LEDS 3mm		
Qty	**Value**	**Reference designator**
4	Red or any color	D8, D9, D10, D11

After soldering, you can now take off the front panel, put it aside. To avoid any contact between the top of the trimmers (RV1, RV6) and the pins of the jacks (J3, J6), you will have to cut them short.

FEMALE AND MALE PIN HEADERS

Place the female pin headers on the front side of board B, place the male pin headers on the back of board A. Put them inside each other.
Secure the spacer between board A and B.
Solder both female and male pin headers.

Qty	Value	Reference designator
2	1x06 Female Pin Header	J21, J23
2	1x06 Male Pin Header	J11, J13
1	1x08 Female Pin Header	J22
1	1x08 Male Pin Header	J12

Put back the panel as you did before. Now you can secure all jacks and pots nuts. Once you are done. Put the potentiometer knobs and switch cap on.

CONGRATULATION, you've just finished building your new module !

FIRST POWER UP TEST :

Before powering up your module, use a multimeter to check that there is no short between +12V, -12V and Ground rails.

Now you can power up your module: Connect the power ribbon cable (the red wire on the power ribbon cable corresponds to -12V) and **Enjoy!**

CALIBRATION:

The goal of this calibration is to set the offset of the resonance's VCAs using trimmers RV1 and RV6 to prevent CV signal from leaking into the audio signal.

Start by powering-up your module. Set "RESO" knob to minimum (CCW) and "CUTOFF" to maximum (CW). Connect a VCO (or any oscillator, preferably square or sawtooth wave) to "RES CV" input. Nothing should be connected to "INPUT".

1 – Connect the "OUT VAR" to your speakers or headphones.

2 – Adjust RV1 until you reach a setting where the volume of the VCO at "OUT VAR" is the lowest.

3 – Connect the "OUT LP4" to your speakers or headphones.

4 – Adjust RV6 until you reach a setting where the volume of the VCO at “OUT LP4” is the lowest.

YOU’RE READY TO ROLL ! ENJOY YOUR NEW MODULE !