GUIDE TO ASSEMBLY OF ERICA SYNTHS POLIVOKS VCF

If you are reading this, most probably, you are about to build Erica Synths DIY Polivoks VCF. This module is 30mm deep, skiff friendly, has solid mechanical construction and doesn't require wiring. Polivoks VCF is famous for its' crazy resonance sweeps and deep, bassy sound which makes it ideal for acid basslines. We believe, this is one of most is one of most authentic sounding famous Russian synth Polivoks VCF emulations available. The original Russian ICs K140UD12 are used in the sound circuit. We did several updates to adapt the VCF for contemporary modular synth demands. Independently buffered inputs, extended Cutoff knob range, eliminated clicks, when switching filter modes, and output stage added to eliminate signal inversion.

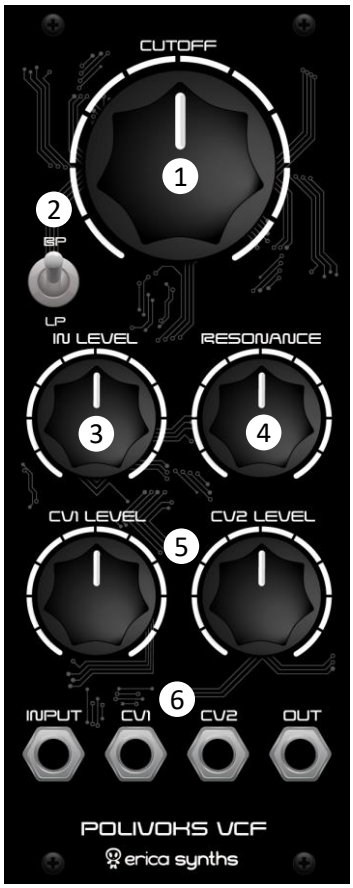
The DIY Polivoks VCF kit comes in three versions:
1) PCB + 2xK140UD12 ICs,
2) PCB + 2xK140UD12 ICs + panel,
3) Full kit.

FEATURES:

- Switchable BP/LP modes
- Inputs/outputs are protected against over-voltage
- Protection on reversed power supply
- Skiff friendly design

SPECIFICATIONS:

• Input level	up to 20Vptp
• CV input level	-10V - +10V
• Filter modes	BP(6dB/oct)/LP(12dB/oct)
• Module width	10HP
• Module depth	30mm
• Power consumption	11mA@+12V, 11mA@-12V



1. Big knob makes a difference! This is a filter cutoff frequency control.
2. Switch between lowpass and bandpass filter modes!
3. Adjust input signal level with this knob!
4. Polivoks VCF is famous for its crazy resonance sweeps and self oscillation. Use this knob with responsibly!
   .
5. Adjust cutoff CV levels!
6. These are inputs and outputs – no mystery here.

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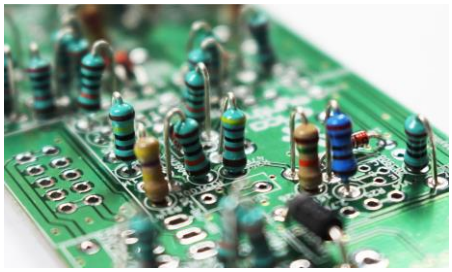
ASSEMBLY

Take precautions with regard to electrostatic discharge (ESD) safety. Handling components should be done in electrostatically safe environment. Use personal and workplace grounding. Any discharge (even a minor one) from body to a component may permanently damage it.
Our PCBs have silkscreened both component values and designators nevertheless we highly recommend you to print out files with component placement before you start assembly of the module. And, please, at least take a look on this manual!
Some components are marked as NU (not used) – leave those unpopulated! Some components are market as OPTION (those are for optional modifications) – leave those unpopulated for now.

1

In order to save space and make the module more compact, most or resistors are installed vertically **(you also may want to replace them with 0805 smt resistors).** See the close-up for correct installation! Pay attention on resistor placement – don't accidentally install them in the testpoint hole! Also solder diodes! Pay attention on orientation of diodes!

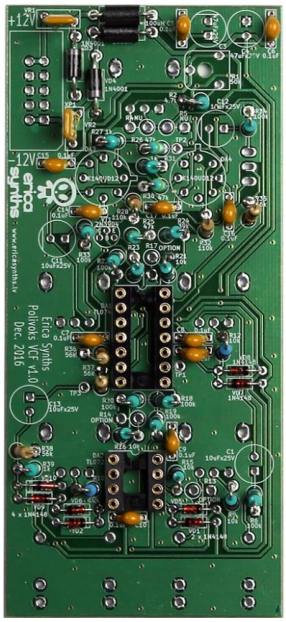


2

Solder IC sockets!

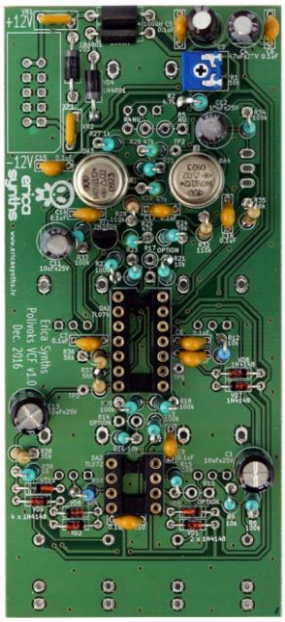
3

Solder capacitors, ferrite beads and resettable fuses (you may replace them with wire jumpers on your own risk)!



4

Solder electrolytic capacitors (pay attention on orientation), a transistor, trimpot and opamps in metallic cans – align the key to the silkscreen!



This is negative lug of the electrolytic capacitor

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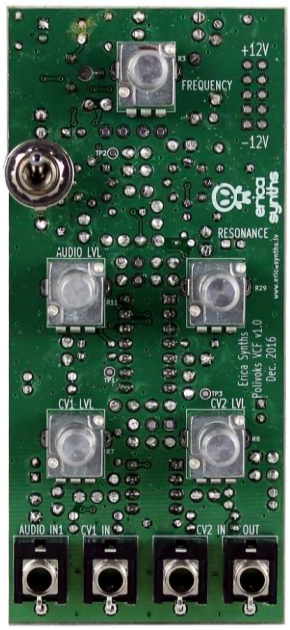
5 Solder PSU connector!

6 Turn the PCB around and solder potentiometers, jacks and mode switch!



7 Install the front panel, use jack and potentiometer nuts to tighten it. Install potentiometer knobs!

8 Congratulations! You have completed the assembly of Erica Synths DIY Polivoks VCF. If assembly is done correctly, the module should work straight away.
Calibration is easy – turn Cutoff knob full counter clockwise and adjust a trimpot on the PCB so that the VCF is fully closed.

ENJOY!