

If you are reading this, most probably, you are about to build Erica Synths DIY Polivoks-inspired Envelope generator. This module is 30mm deep, skiff friendly, has solid mechanical construction and doesn't require wiring. The core of the Envelope Generator is borrowed from famous Russian synth Polivoks, but we significantly updated schematics:

- 1) the original Polivoks has negative gate, therefore we made the EG work from eurorack standard positive gates,
- 2) we adjusted envelope amplitude for eurorack modular requirements,
- 3) we introduced inverted envelope output,
- 4) we updated looping feature (looping on gate on),
- 5) most importantly, we added Gate Delay feature – the module outputs delayed gate signal after Attack stage. Chain up several (4-5) Envelope Generators, each with delayed gate to create evolving polyphonic synth-like pads!

The DIY Envelope kit comes in three versions:

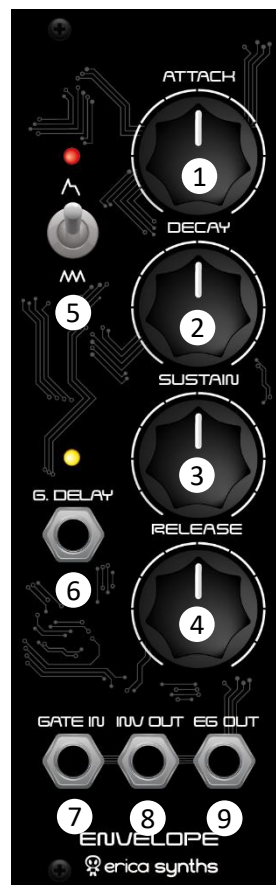
- 1) PCB,
- 2) PCB + panel,
- 3) Full kit.

FEATURES:

- Full ADSR envelope
- Direct and inverted envelope outputs
- Gated and independent looping modes
- Gate delay (after Attack stage) output
- Skiff-friendly design

SPECIFICATIONS:

- | | |
|----------------------|----------------------|
| • Envelope amplitude | 0...10V |
| • Attack time | 0...3" |
| • Decay time | 0...12" |
| • Sustain level | 0...10V |
| • Release time | 0...12" |
| • Panel width | 8HP |
| • Module depth | 30mm |
| • Power consumption | 20mA@+12V, 10mA@-12V |



- 1 Adjust Attack time from 0 to 3"!
- 2 Adjust Decay time from 0 to 12"!
- 3 Adjust Sustain level from 0 to 10V!
- 4 Adjust Release time from 0 to 12"!
Select between normal ADSR and looping AR mode! If patch cable is patched in Gate jack, looping will occur only if the Gate signal is present.
- 5 This is Gate Delay output. High Gate signal appears here after the Attack stage.
- 7 This is Gate input.
- 8 This is inverted envelope output.
- 9 This is main envelope output.

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 socket, ceramic capacitors, ferrite beads and resettable fuses!

NB! We observed that when the EG OUT is connected to certain VCAs, the looping may stop. In order to make looping more stable, replace R38 by 2,7k resistor!



3

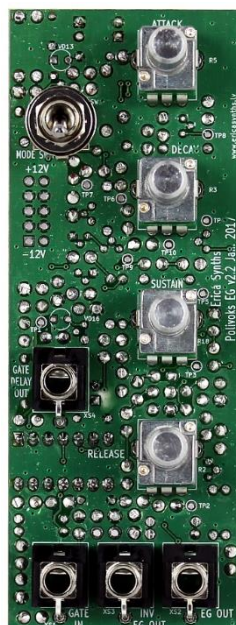
Solder transistors (do not mix NPN and PNP!) and electrolytic capacitors! Mind polarity of the capacitors!



This is the negative lug of the electrolytic capacitor!

4

Turn a PCB around and solder potentiometers, jacks and a switch!



5 Solder PSU connector and install the IC!



5 Insert LEDs, **but do not solder them yet!** Install front panel and tighten it with potentiometer and jack nuts. Now solder LEDs!



5 Install potentiometer knobs, and – whola! You have completed Erica Synths DIY Envelope Generator!



The module does not need calibration and should work straight away.