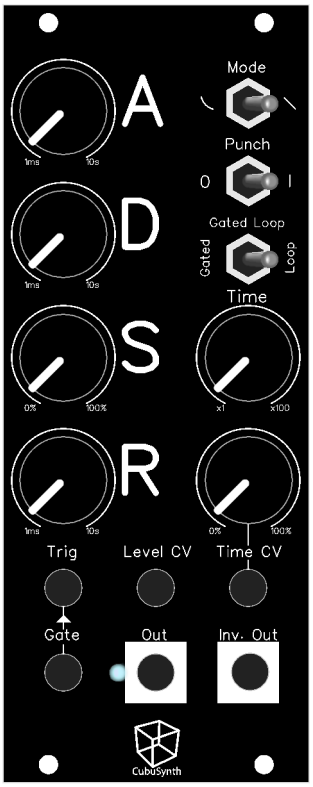
CubuSynth

# ADSR

## Envelope Generator with Looping Mode, Time and Level control

## Manual

PCB V2.1 Aug 2021




Written and Illustrated by Ruben Sponar

# Introduction

The CubuSynth ADSR Module is a VC looping envelope generator, with controls for the Attack, Decay, Sustain and Release stages, for overall Time of the envelope and CV inputs for Time and Level.

The EnvGen8 chip was written/designed by Tom Wiltshire aka "Electric Druid". For more information visit: https://electricdruid.net/product/envgen8/

**1** ATTACK (1ms - 10s)
Sets the time, the Envelope takes to reach full level from the moment a gate is detected (Key is pressed)

**2** DECAY (1ms - 10s)
Sets the time, after the envelope hits full level, to fade to the level set by the SUSTAIN Knob.

**3** SUSTAIN (0% – 100%)
Sets the Volume to stay after the decay, while the GATE input is high.

**4** RELEASE (1ms - 10s)
Sets the time for the fade out on falling edge of the GATE input (after the Key is released)

**5** MODE switch
Select between exponential and linear curves.

**6** PUNCH switch
Adds extra thump to very short percussive envelopes

**7** LOOPING MODE switch
Allows selection between three different modes of operation. Gated mode is a normal envelope. Gated Looping will trigger the ATTACK stage when the GATE goes high, then continue looping whilst the GATE remains high, and will RELEASE to zero when the GATE goes low. The LFO Looping mode loops continuously and ignores input from the GATE.

**8** TIME (x1 – x100)
Overall Time control which shortens the length of the entire envelope.

**9** TIME CV Attenuator
Attenuates incoming CV for Time modulation. Higher voltages will shorten the length of the envelope.

**10** TRIG Input
Re-trigger for the envelope. Useful for Polyphonic patches. Envelope goes to ATTACK stage on rising edge of 0-5V pulse while Gate can still be on.

**11** GATE Input
Normalized to TRIG Input. Envelope goes to RELEASE stage on the falling edge.

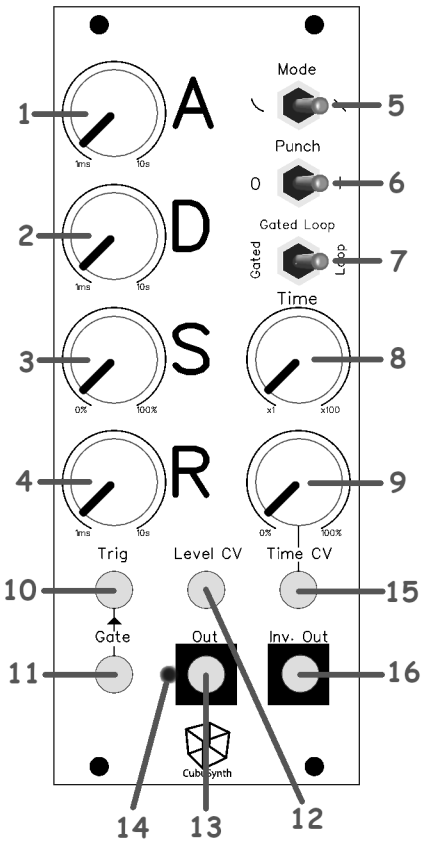
**12** Level CV Input
Control the overall Volume of the envelope. Can be used for velocity control. If nothing is plugged in, the Volume stays on max.

**13** OUT
CV-output of the envelope (0 to +5V)

**14** LED
Indicates the output voltage.

**15** TIME CV
CV Input for Time modulation. Higher voltages will shorten the length of the envelope.

**16** INV. OUT
Inverted voltage of the output CV (0 to -5V)



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