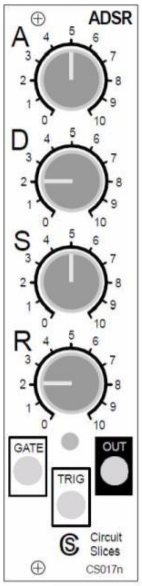


The Circuit Slices ADSR module is a re-triggerable envelope generator for modular Eurorack-compatible synthesizers. This popular module includes a jumper option to select a maximum 10V or 5V output. The front panel includes a green LED that indicates the state of the output.

Specifications for the CS ADSR
Attack time: ~2mS to over 5s
Decay time: ~2mS to over 12s
Sustain level: 0 to 10V or 0 to 5V with a shorting jumper on J5
Release time: ~2mS to over 12s
Output level: 10V or 5V selected with shorting jumper on J5
Gate threshold: 2.5V
Power (standby): +12VDC @ 3mA, -12DC @ 2mA
Depth: 35mm (with power cable plugged in)
Panel width: 6 HP

Features for CS ADSR
"TRIG" input for re-triggered attacks
Logarithmic potentiometers for A, D, R
High-quality anodized aluminum panel
User selectable power-bus 'gate' using PCB shorting jumper (J4)
Low power consumption
Narrow 6 HP width
Output level indicator LED
User selectable 5V or 10V output using PCB shorting jumper (J5) -- for PCB V4.0 and above
Reverse voltage protection and keyed power connector
Heavy-duty knobs with metal inserts
Includes power cable, case screws, and installed shorting jumpers

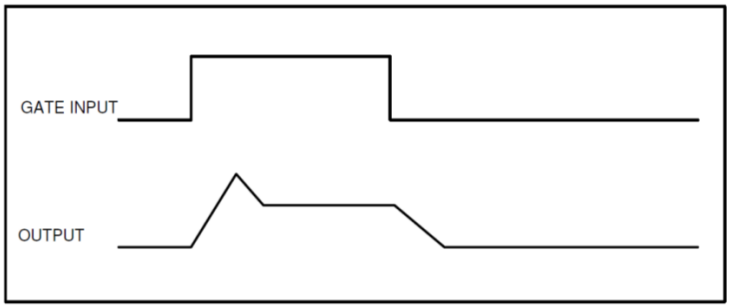
Installation

The ADSR module is ready to install in your Eurorack. Simply mount the panel using the supplied screws and route the ribbon-cable power connector to your power bus. Be careful making the connection to your power bus and double check your connection before applying power. The red stripe on the ribbon cable must be toward the -12V pin on the power bus.

The ADSR module includes a printed circuit board jumper option that enables the use of the power bus GATE signal. See "The Bus Gate" paragraph below. Also choose the maximum output level as explained in the "10V or 5V Output Level" paragraph.

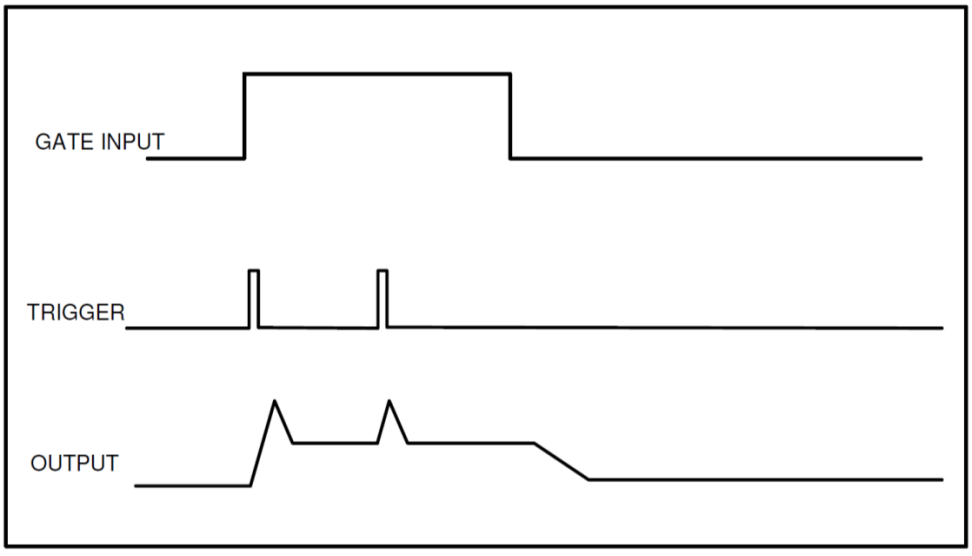
The Trigger Input

A Gate input alone will produce the typical ADSR response at the Output:



(note that the attack, decay, and release lines will show as curves on an oscilloscope – the changes are exponential.)

A continuous Gate high input accompanied with multiple triggers will produce the following response:



Some MIDI-CV interfaces will produce a trigger output with every Note-On event, even as the gate signal stays high throughout. This would normally happen when playing "legato" on a keyboard -- when playing a series of notes and only releasing the last note *after* the next is played. This gate and trigger system was typical of some older analog synthesizers.

If you don't have a keyboard or MIDI-CV interface that produces a trigger output, you will still find the re-trigger input useful. As an example, imagine using a master or MIDI clock signal in your patch to synchronize a sequence. The clock signal could be patched into the ADSR's TRIG input. This would produce an ADSR output with an initial attack, when the gate is high, and more attacks for every clock pulse, until the gate goes back low. Interesting modulation-like effects -- or multiple attacks -- would be produced and the effect would be synchronized to the over-all clock.

Note that the re-trigger function is enabled only while the GATE input is high.

The Bus Gate

The Circuit Slices ADSR module can be enabled from the GATE signal on the Eurorack power connection. The standard Eurorack power bus includes CV and GATE signals, along with power. If you would like to have your ADSR module controlled from the system bus, simply install a shorting jumper across the two "0n" pins of "BUS GATE" J4 header, found on the circuit board, below the power connector. The module is shipped with the BUS gate control disabled.

10V or 5V Output Level

The PCB header, J5, found near the lower right on the printed circuit board, selects the maximum output voltage. Pull the black shorting jumper off J5 and move to short the center and left pins of J5 for a maximum 10V output. Short the center pin and right pin of J5 for a maximum 5V output. Most Eurorack VCAs will give unity gain with a 5V CV input; the ADSR's 10V output option allows for driving a VCA above its unity gain (depends on the VCA's headroom) or allows a VCF to open fully. Many users like to use the 10V setting for a sharp or "snappy" envelope – and, of course, you can attenuate the 10V signal for just a touch of this effect.

This module is warranted for one year with parts, under normal use – not including the application of reverse or over-voltage power by customer. Return shipping to Circuit Slices from customer not included. Return to Circuit Slices, LLC for repairs. Circuit Slices, LLC reserves the right to replace the module if necessary. Please keep your receipt / packing slip for warranty information.

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