

2408 ADSR Envelope Generator

Description

Q1 and Q2 form a non-inverting level shifter.

Start: (Gate On)

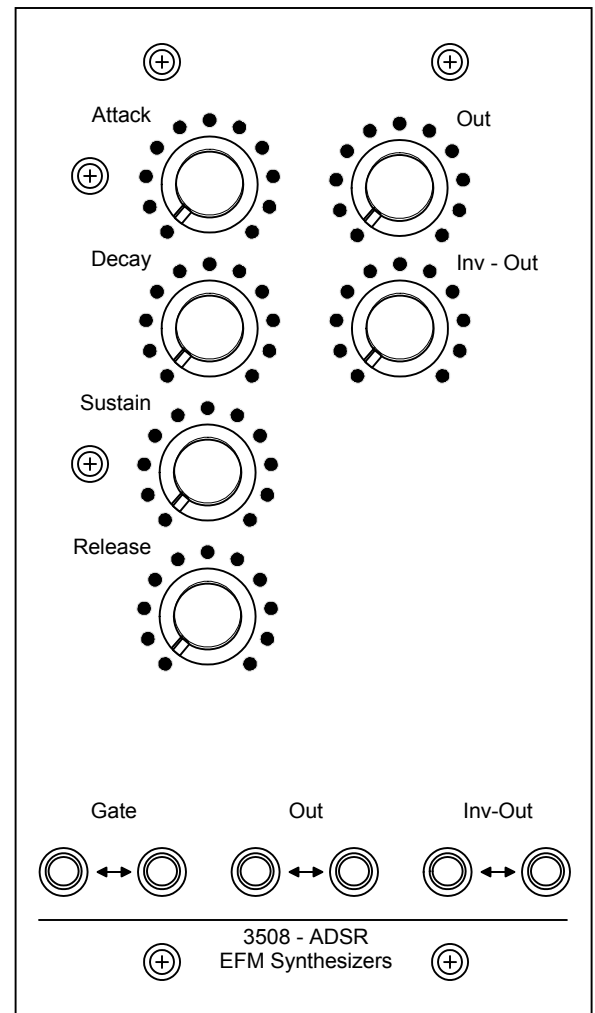
When there is a gate on the base of Q1 the collector is low and Q2 turns off. R4 pulls the collector high and C3 quickly charges and discharges through R5 and D2 causing Q3 to send a low going pulse on the trigger input (pin-2) of the 555. R4 also pulls the 555s reset pin high and removes the discharge path for release diode D5.

Attack:

When the 555 is triggered the output (pin-3) goes high and starts to charge C5 through the attack diode D4 and P3. P3 sets the charge rate.

Decay:

When the 555s threshold (pin-6) is reached the 555s output goes low. R4 is still holding D5 high so C5 starts to discharge through R9, D3, P2 and P1 through the 555s discharge transistor. P2 sets the decay rate.



Sustain:

C5 will continue to discharge until it reaches the voltage level set by the voltage divider formed by the 555s internal discharge transistor and P1. P1 sets the sustain level

Release: (Gate Off)

When the gate is removed the collector of Q2 goes low. If this happens before the threshold is reached. the 555s reset (pin-4) is pulled low and the 555 is reset. C5 starts to discharge through R11, P4, D5 and Q2 to ground. P4 sets the discharge rate.

