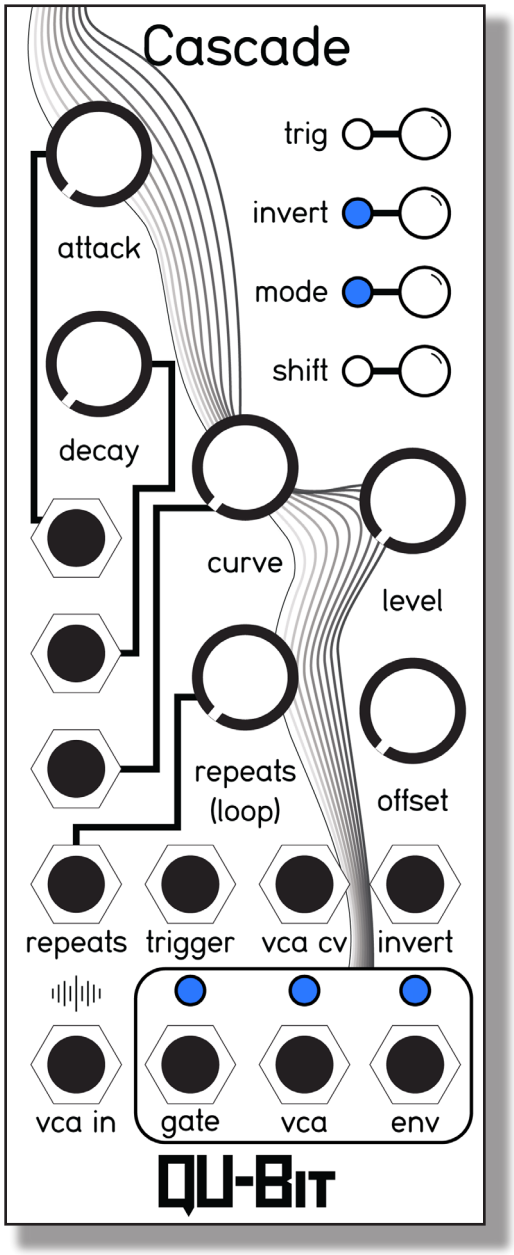
GETTING STARTED WITH CASCADE



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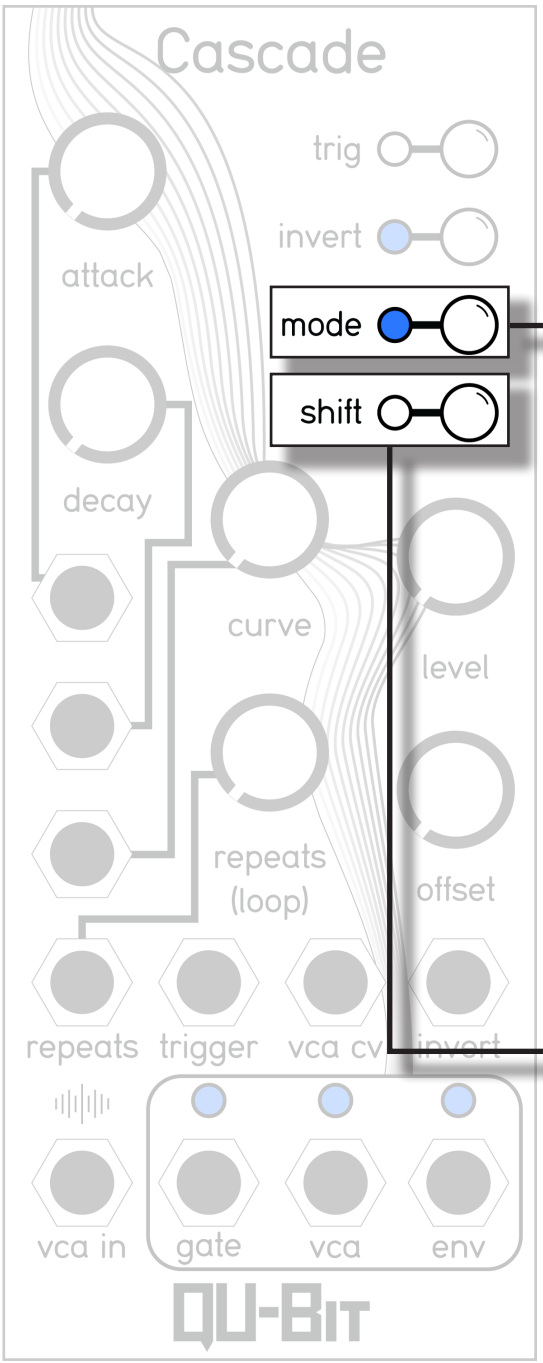

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DESCRIPTION

Cascade is a ratcheting envelope generator, VCA, and sound source all within a compact form factor. The unique interactions of its feature set open up new worlds of rhythmic patching and modulation. Easily create ratcheting sequences, bouncy-ball modulation, and pumping compression, all within a single module.

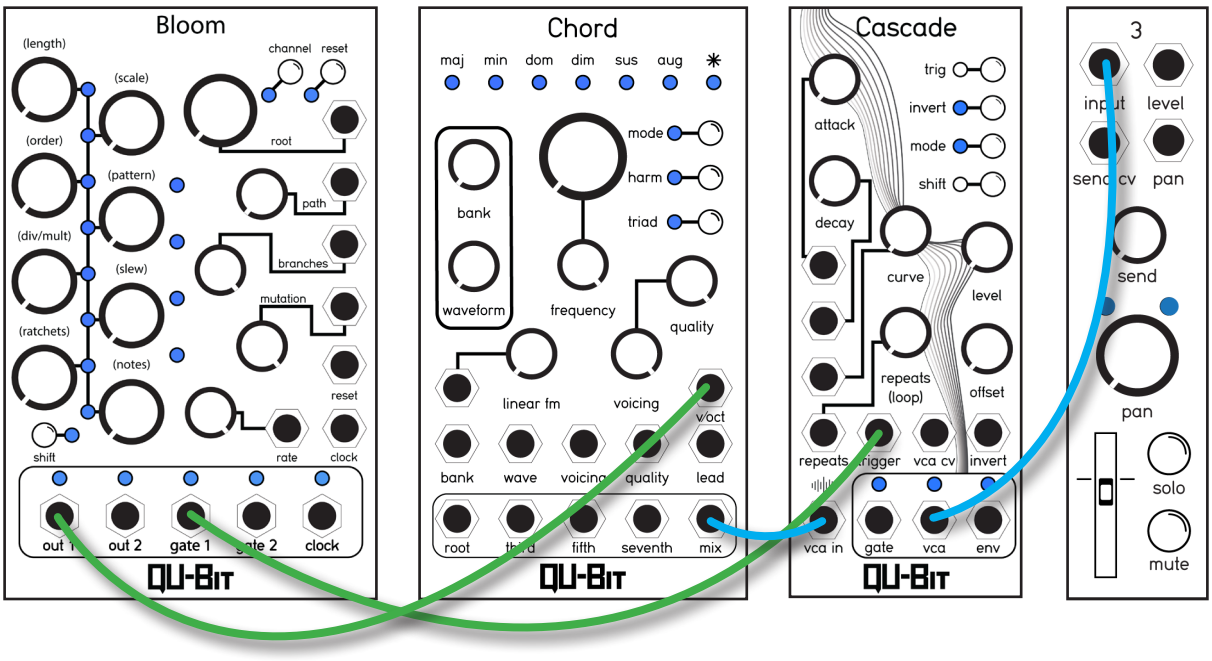
At its core is a powerful envelope generator, which is normaled to a high fidelity 2164 based VCA. You can patch in external audio to the VCA, or take advantage of 4 internal audio algorithms: white noise, 808 drums, and sine tones. Cascade will open up your system in ways that make you wonder how you ever lived without it.

- Envelope output and internal audio generated at 96kHz
- High fidelity 2164 based analog VCA topology
- Analog signal path with digital control for envelope following, compression, and classic VCA behaviors
- Snappy envelopes all the way down to 500 microseconds in length
- Reprogrammable via the Daisy ecosystem

FIRST PATCH

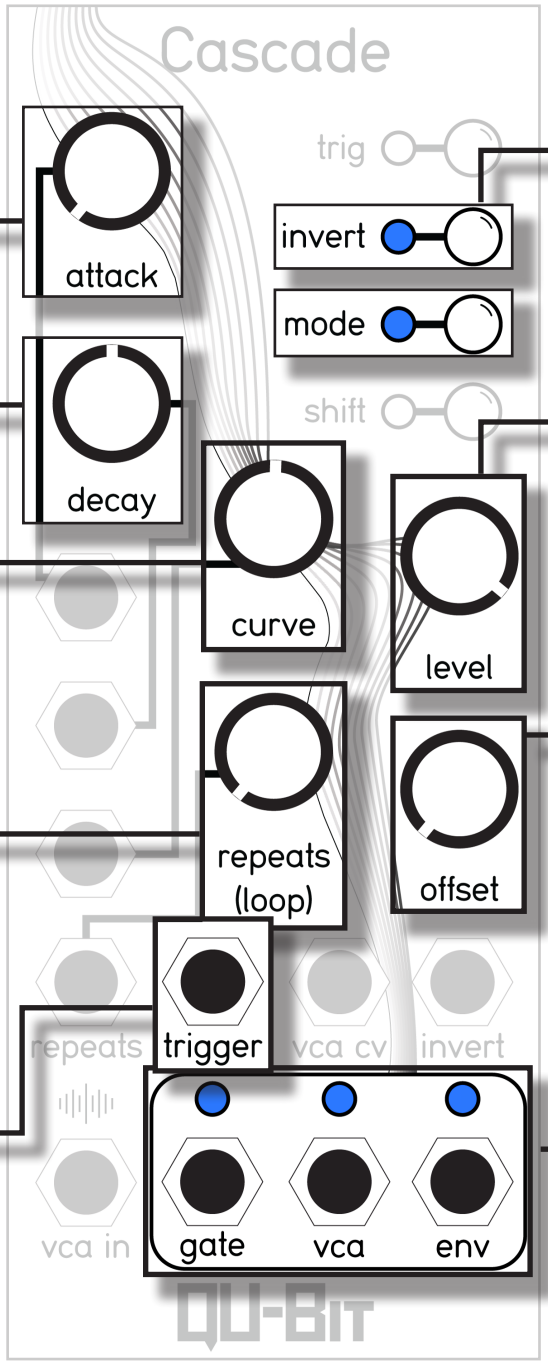
With Cascade's onboard Analog VCA, shaping your sound is as quick as sending your sound through Cascade via the VCA In and Out, and a Gate into the Trigger Input. Below is an example patch using Ratcheting AD Mode to achieve a simple staccato sequence.

✱note: similar results are achievable with alternate modules alongside Cascade.



RATCHETING AD

Attack / Decay Envelope with Ratchetable Repeats



Attack time from .5ms to 5 seconds

Release time from .5ms to 10 seconds

Adjusts curve from logarithmic to linear to exponential

Controls # of repeats and clock multipliers: 1x, 2x, 3x, 4x, 6x, 8x, 12x, 16x

Triggers envelope/sets repeat tempo

Flips the envelope in place, maintaining same voltage range set by offset and level. (Green LED)

Adjusts the output level of the envelope signal

Controls an offset voltage to the envelope Range: 0V to 10V

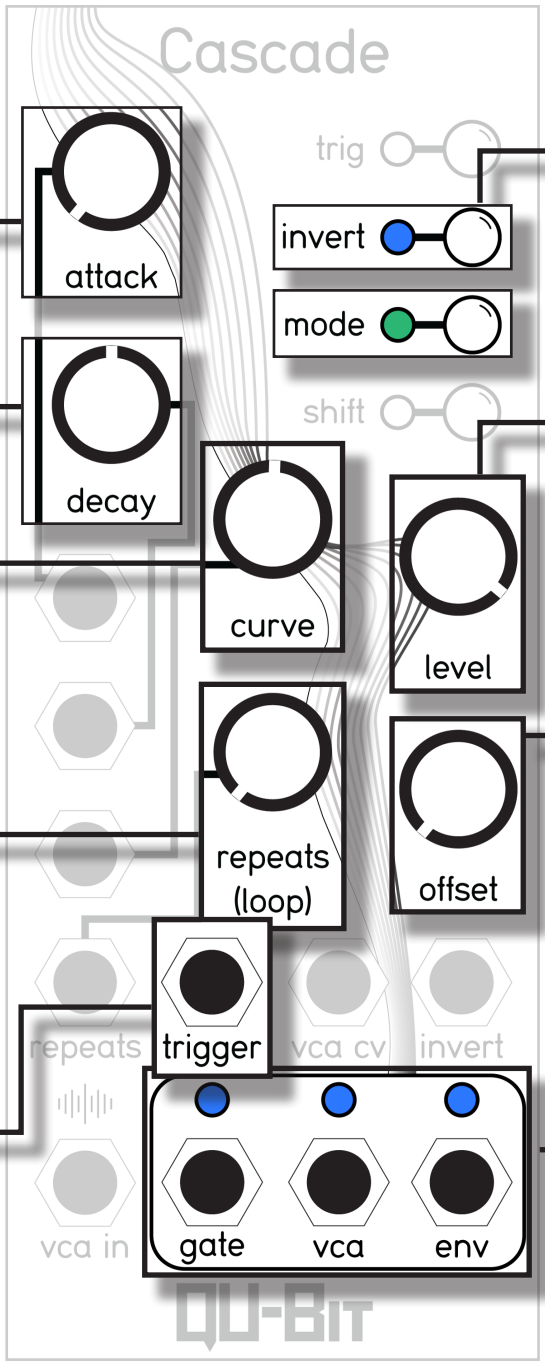
Envelope Output

VCA Output: Sends out signal (external or internal) which is shaped by the envelope every trigger

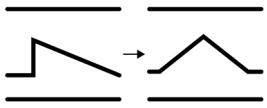
Gate Output: sends out a configurable gate signal every trigger (see Edit Functions for more)

AD ENVELOPE

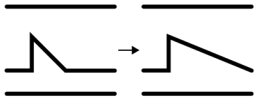
Attack / Decay



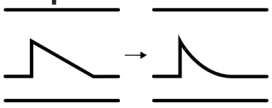
Attack time from .5ms to 5 seconds



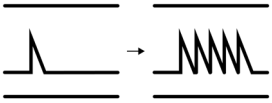
Release time from .5ms to 10 seconds



Adjusts curve from logarithmic to linear to exponential

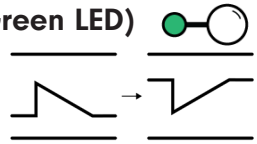


Adjusts envelope repeats from 1 to 16, infinite looping at knob end

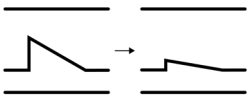


Triggers envelope/sets repeat tempo

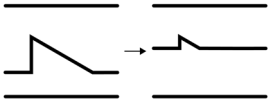
Flips the envelope in place, maintaining same voltage range set by offset and level. (Green LED)



Adjusts the output level of the envelope signal



Controls an offset voltage to the envelope Range: 0V to 10V



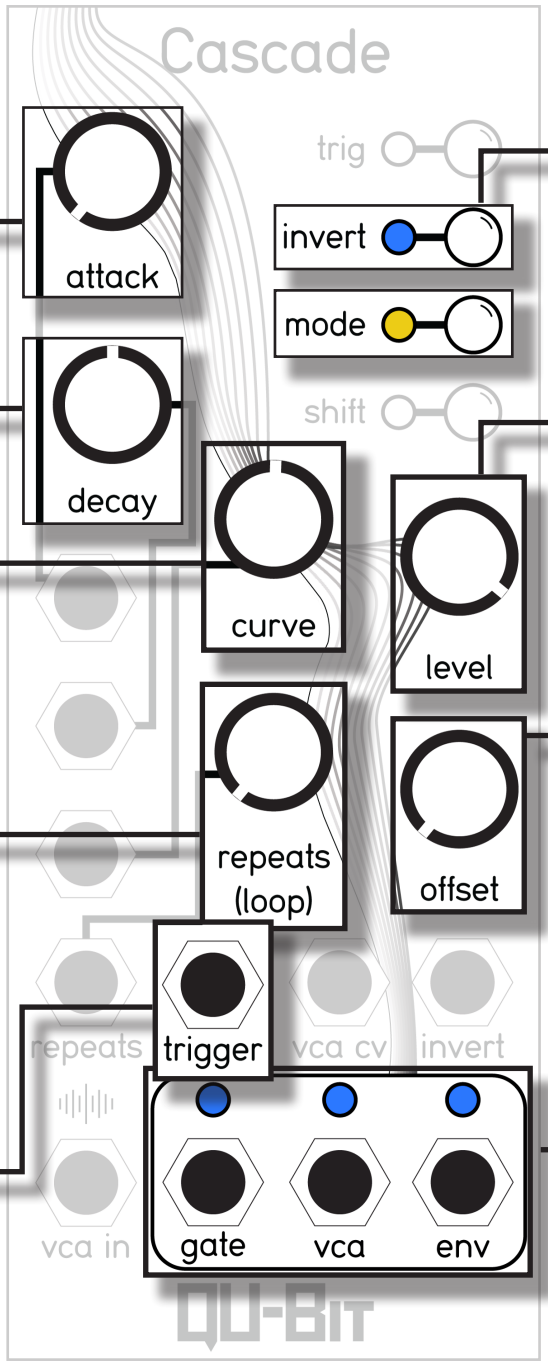
Envelope Output

VCA Output: Sends out signal (external or internal) which is shaped by the envelope every trigger

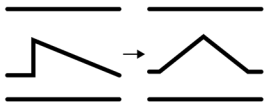
Gate Output: sends out a configurable gate signal every trigger (see Edit Functions for more)

ASR ENVELOPE

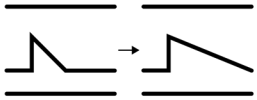
Attack / Decay Envelope with Gate Configured Sustain



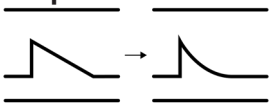
Attack time from .5ms to 5 seconds



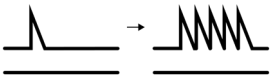
Release time from .5ms to 10 seconds



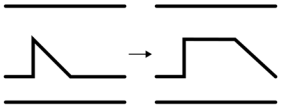
Adjusts curve from logarithmic to linear to exponential



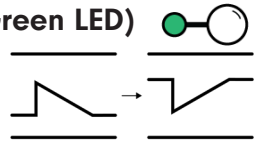
Adjusts envelope repeats from 1 to 16, infinite looping at knob end.



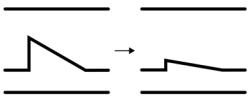
Triggers envelope/ gate length sets sustain



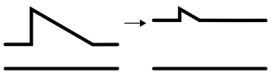
Flips the envelope in place, maintaining same voltage range set by offset and level. (Green LED)



Adjusts the output level of the envelope signal



Controls an offset voltage to the envelope Range: 0V to 10V



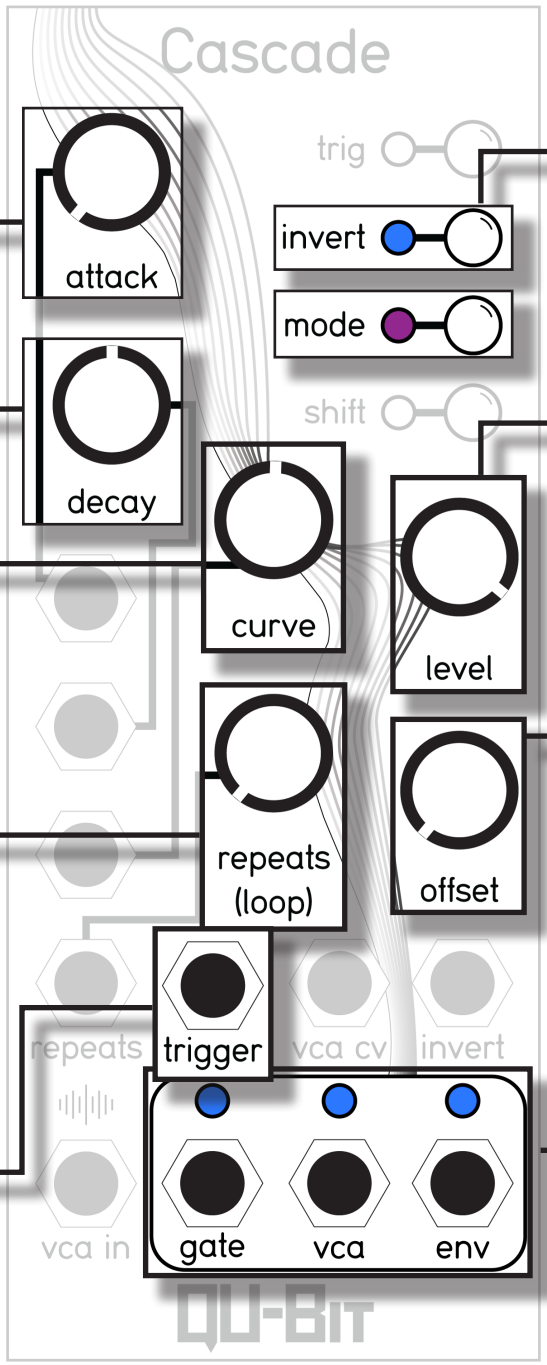
Envelope Output

VCA Output: Sends out signal (external or internal) which is shaped by the envelope every trigger

Gate Output: sends out a configurable gate signal every trigger (see Edit Functions for more)

ADSR ENVELOPE

Attack / Decay / Sustain / Release Envelope



Attack time from .5ms to 5 seconds

Decay time from .5ms to 5 seconds

Sustain Level set from 0V to value set by Level

Release time from .5ms to 5 seconds

Triggers envelope

Flips the envelope in place, maintaining same voltage range set by offset and level. (Green LED)

Adjusts the output level of the envelope signal

Controls an offset voltage to the envelope Range: 0V to 10V

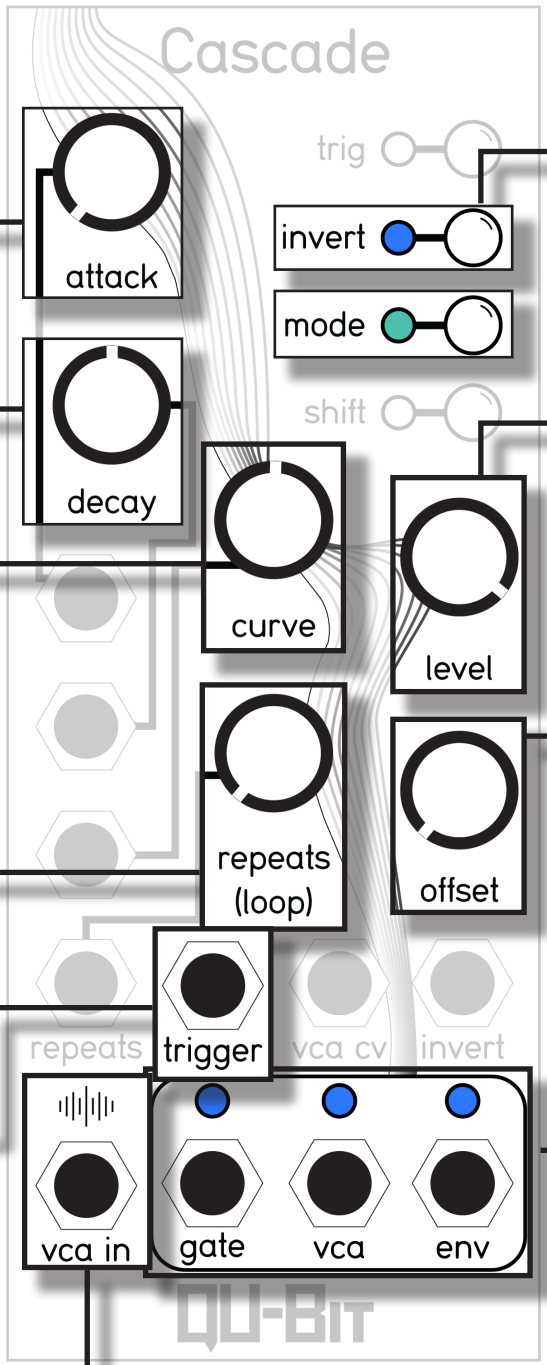
Envelope Output

VCA Output: Sends out signal (external or internal) which is shaped by the envelope every trigger

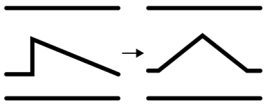
Gate Output: sends out a configurable gate signal every trigger (see Edit Functions for more)

ENVELOPE FOLLOWER

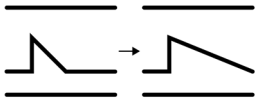
Envelope Generator with Audio Detection



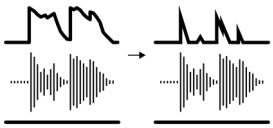
Attack time from .5ms to 5 seconds



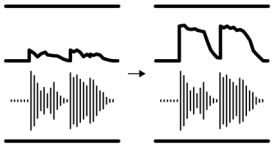
Decay time from .5ms to 5 seconds



Adjusts the response curve/sensitivity to the follower



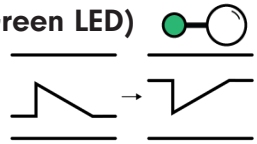
Controls the threshold for the detection



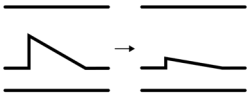
Triggers a virtual sound source injected into the follower detection.

Audio Input

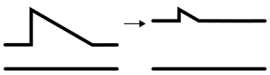
Flips the envelope in place, maintaining same voltage range set by offset and level. (Green LED)



Adjusts the output level of the envelope signal



Controls an offset voltage to the envelope Range: 0V to 10V



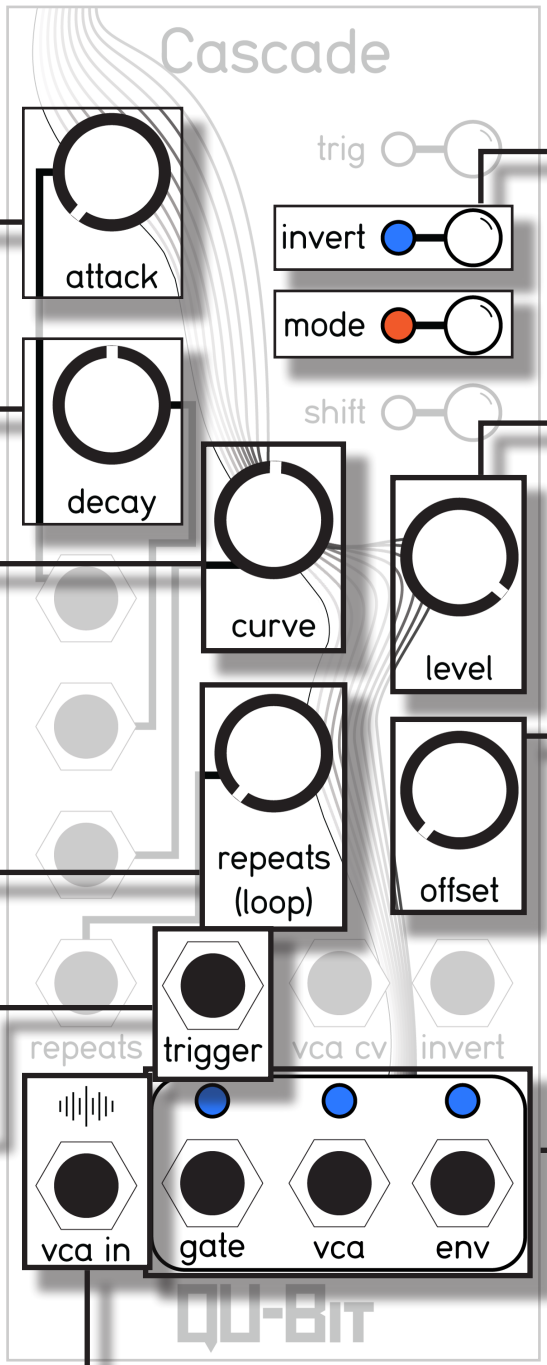
Envelope Output

VCA Output: Sends out signal (external or internal) which is shaped by the Follower

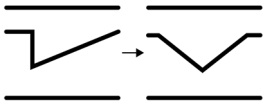
Gate Output: Gate goes HIGH when the signal is above the threshold, and LOW when it is below

COMPRESSOR

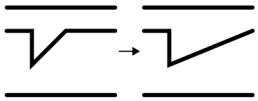
Compressor with Virtual Sidechain



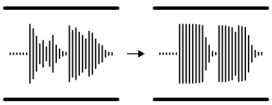
Attack time from .5ms to 5 seconds



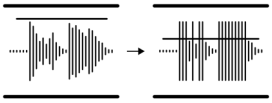
Decay time from .5ms to 5 seconds



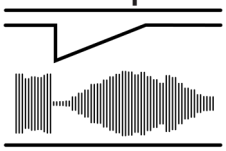
Compression ratio adjustment



Controls the compression threshold

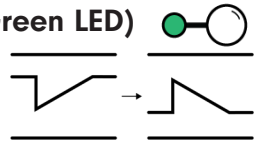


Triggers a virtual sound source injected into the compressor

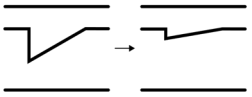


Audio Input

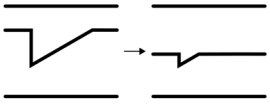
Flips the envelope in place, maintaining same voltage range set by offset and level. (Green LED)



Adjusts the output level of the envelope signal



Controls an offset voltage to the envelope Range: 0V to 10V

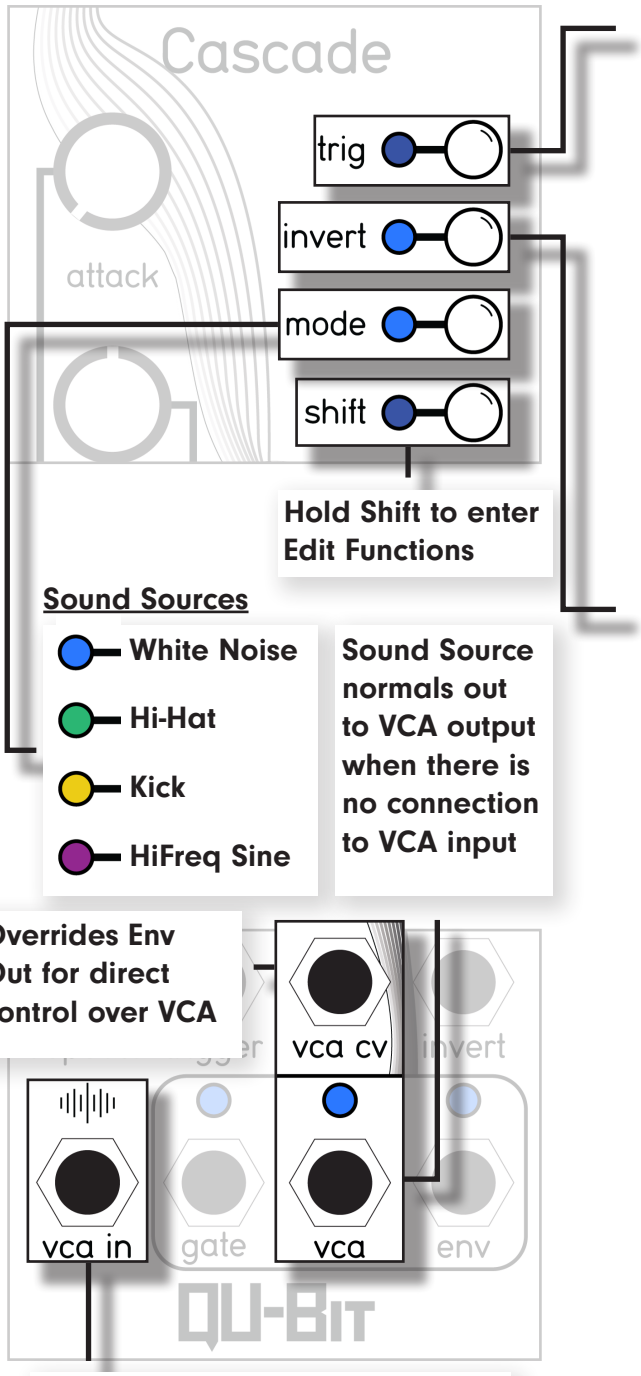


Envelope Output

VCA Output: Sends out signal (external or internal) which is compressed

Gate Output: Gate goes HIGH when the compressor is engaged, and gain control is in effect

SOUND SOURCES & EDIT FUNCTIONS



Gravity Modes

- No Gravity
- Amplitude Gravity
- Amplitude and Time Gravity

Hold Shift to enter Edit Functions

Sound Sources

- White Noise
- Hi-Hat
- Kick
- HiFreq Sine

Sound Source normals out to VCA output when there is no connection to VCA input

Gate Output Modes

- 6ms Trigger at start of every envelope
- EOD Mode: Gate is HIGH when envelope is not in decay stage
- EOA Mode: Gate is HIGH when envelope is not in attack stage

Overrides Env Out for direct control over VCA

Input for external sound sources. Used for Envelope Follower, Compressor, and VCA

For a more detailed look at Cascade, additional example patches, and more, head over to the product page and manual here:
www.qubitelectronix.com/shop/cascade