

SCHLAPPI ENGINEERING

A multi-purpose modulation and signal control center consisting of a cycling slew and a four quadrant multiplier.

Cycling Slew Functions

- Voltage Controlled Envelope
- Modulation oscillator (from below to above audio rate)
- Envelope following (rectify input)
- Bouncing ball fx (bound input)
- Frequency divider (trigger input)
- Portamento (slew input)
- Audio rate wave shaping (trig or slew input)

4Q Multiplier Functions

- VCA
- Ring Mod
- Soft limiting or distortion

CYCLE SWITCH

The SLEW/ENV section will oscillate on its own

RISE

The rate of rise (or attack)

CV (SHAPE)

Allows external voltage control over the rise rate.

If no cable is inserted the knob controls the shape of the rise

INVERT (SHAPE) SWITCH

Inverts the cv going to RISE.

In the up (+) position cv will increase the length of the rise, and down (-) decrease.

If no cable is present it switches between logarithmic and exponential curves.

TRIG INPUT

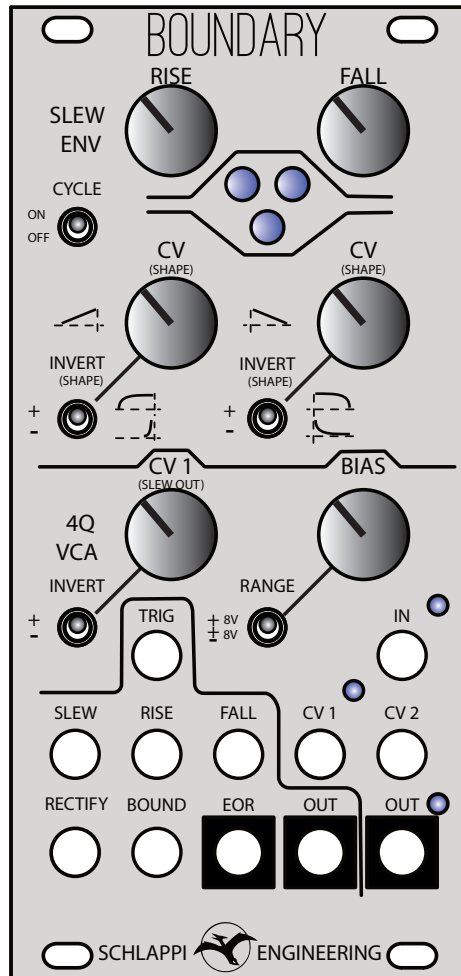
Starts the Rise cycle of the slew.

It will not retrigger during the rise cycle, allowing for use as a frequency divider or trigger delay

SLEW INPUT

Input to use to control the rate of a bipolar input signal.

The slew is scaled to be accurate enough to use as a portamento with volts per octave signals



FALL

The rate of fall (or decay)

CV (SHAPE)

Attenuates external voltage control over the fall rate

If no cable is inserted the knob controls the shape of the fall

INVERT (SHAPE) SWITCH

Inverts the fall CV.

In the up (+) position cv will increase the length of the fall, and down (-) it will decrease.

If no cable is present it switches between logarithmic and exponential curves.

CV 1

CV for the 4Q multiplier.
Normalised to the slew out.

INVERT SWITCH

Inverts CV 1
Useful for ducking effects

BIAS

Controls default level of the VCA

RANGE SWITCH

Determines whether the BIAS is positive only (for traditional VCA usage) or can travel negative to invert the signal.

Useful to offset a ring modulated signal.

RECTIFY INPUT

Full wave rectified input.

Flips the negative half of a bipolar signal up to be wholly positive.

Useful for envelope following or frequency doubling

BOUND INPUT

Replaces the threshold for the cycling slew.

Insert another envelope to achieve bouncing ball effects or use as a pseudo VCA to control the envelope output

PATCHES TO START WITH

ENV/VCA

NOB POSITIONS	RISE	100% CCW
	FALL	50% CW
	CV 1	75% CW
	CYCLE	OFF (DOWN)
	OTHER KNOBS	FULL CCW
	OTHER SWITCHES	UP

- TRIG signal at TRIG in or GATE signal at SLEW in
- Insert audio at IN, listen at OUT (VCA section)
- CV1 will control volume
- Experiment with RISE and FALL CV (shape) knobs
- INVERT CV1 and turn BIAS control CW to create a ducking effect

ENVELOPE FOLLOWER

- Start from ENV/VCA patch
- Remove GATE/TRIG
- Apply audio to RECTIFY input
- Especially good with drum machine

RING MOD

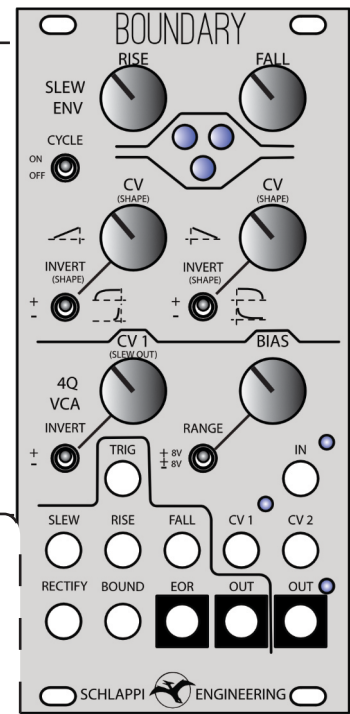
- Start from ENV/VCA patch
- Remove GATE/TRIG
- CYCLE switch ON (UP)
- Turn RISE/FALL CCW until audio rate
- BIAS RANGE switch +8V (DOWN)
- Explore effect of BIAS

BOUNCING BALL

- Start from ENV/VCA patch
- TRIG signal at TRIG in
- CYCLE switch UP (ON)
- Apply another envelope at BOUND
- Explore RISE, FALL and SHAPE

FREQUENCY DIVIDER

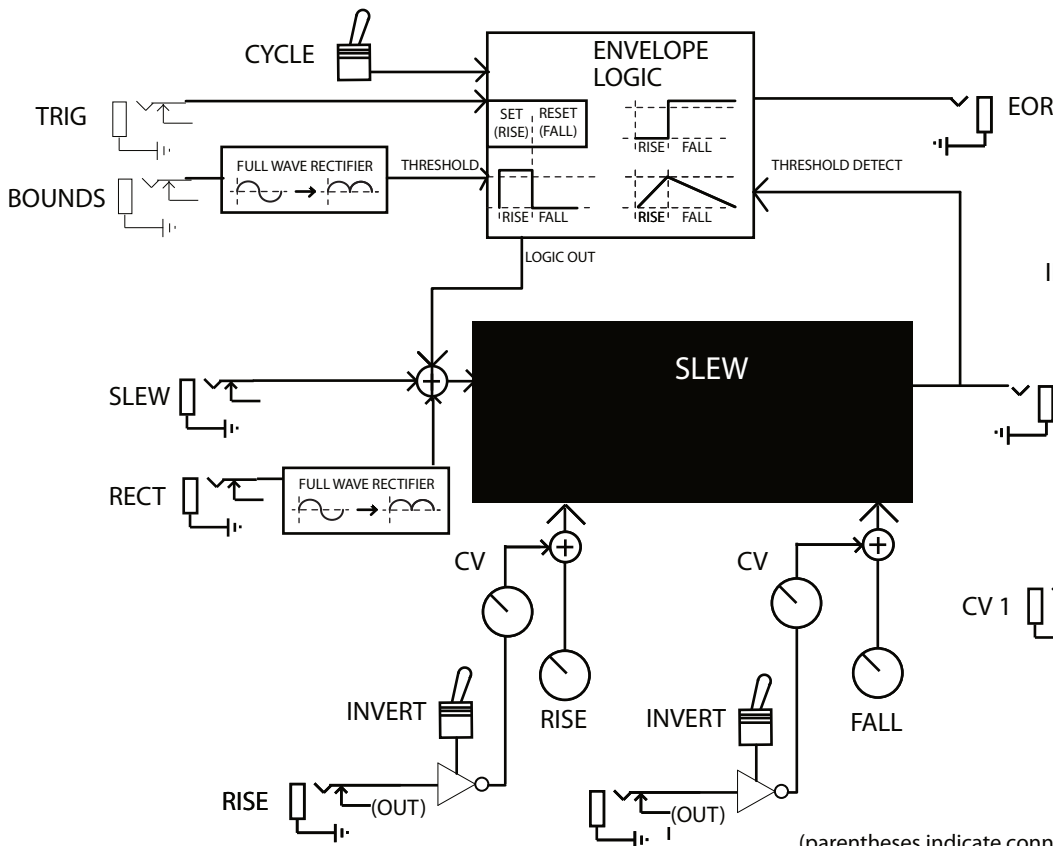
- Start from ENV/VCA patch
- CYCLE switch ON (UP)
- Insert signal to divide at TRIG
- Take output from EOR out
- RISE controls division
- FALL affects pulse width



AUDIO SYNC EFFECTS

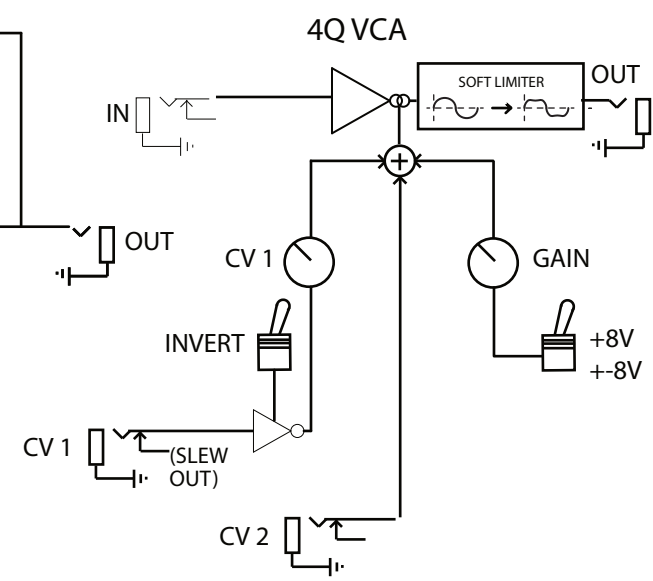
- Audio in at TRIG
- CYCLE switch UP (ON)
- RISE and FALL fully CCW
- Listen to the slew OUT
- Try changing RISE and FALL
- Add CV to RISE and FALL
- Move input to SLEW or RECTIFY for different effects/

BOUNDARY BLOCK DIAGRAM



PORTAMENTO

- V/OCT in at SLEW
- V/OCT out from slew OUT



(parentheses indicate connections normalised to unconnected inputs)