Makenoise Function
Manual Patch Ideas illustrated

by Demonam

Index

Voltage Controlled Transient Generator (Attack/ Decay Envelope)

pulse or gate

FVNCTION

TRIG

Attack

Decay

Response

EDR   EDC

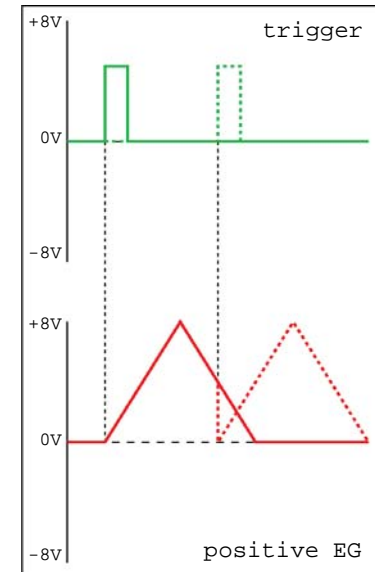MAKENOISE
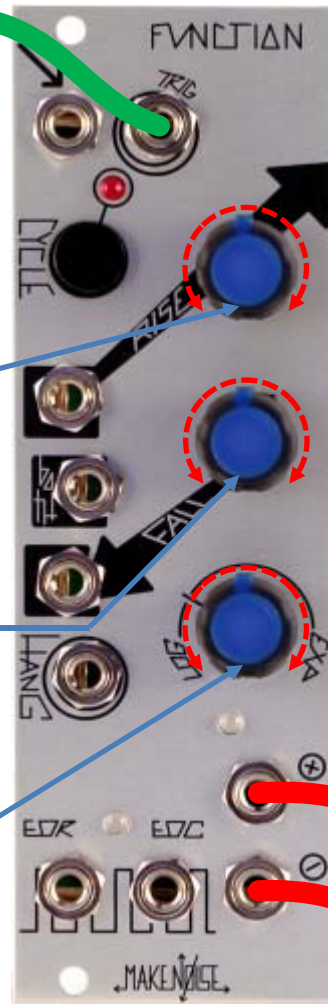
A pulse or gate applied to the Trigger IN starts the transient function, which rises from 0V to 8V at a rate determined by the Rise parameter, then Falls from 8V to 0V at a rate determined by the Fall parameter. This function is retriggerable during the falling portion. Rise and Fall are independently voltage controllable, with response as set by the VariResponse panel Control.

+8V   trigger

0V

-8V

+8V

0V

-8V   positive EG

positive EG Out (0/+8V)

negative EG Out(0/-8V)

# Voltage Controlled Sustained Function Generator (A/S/R Envelope)
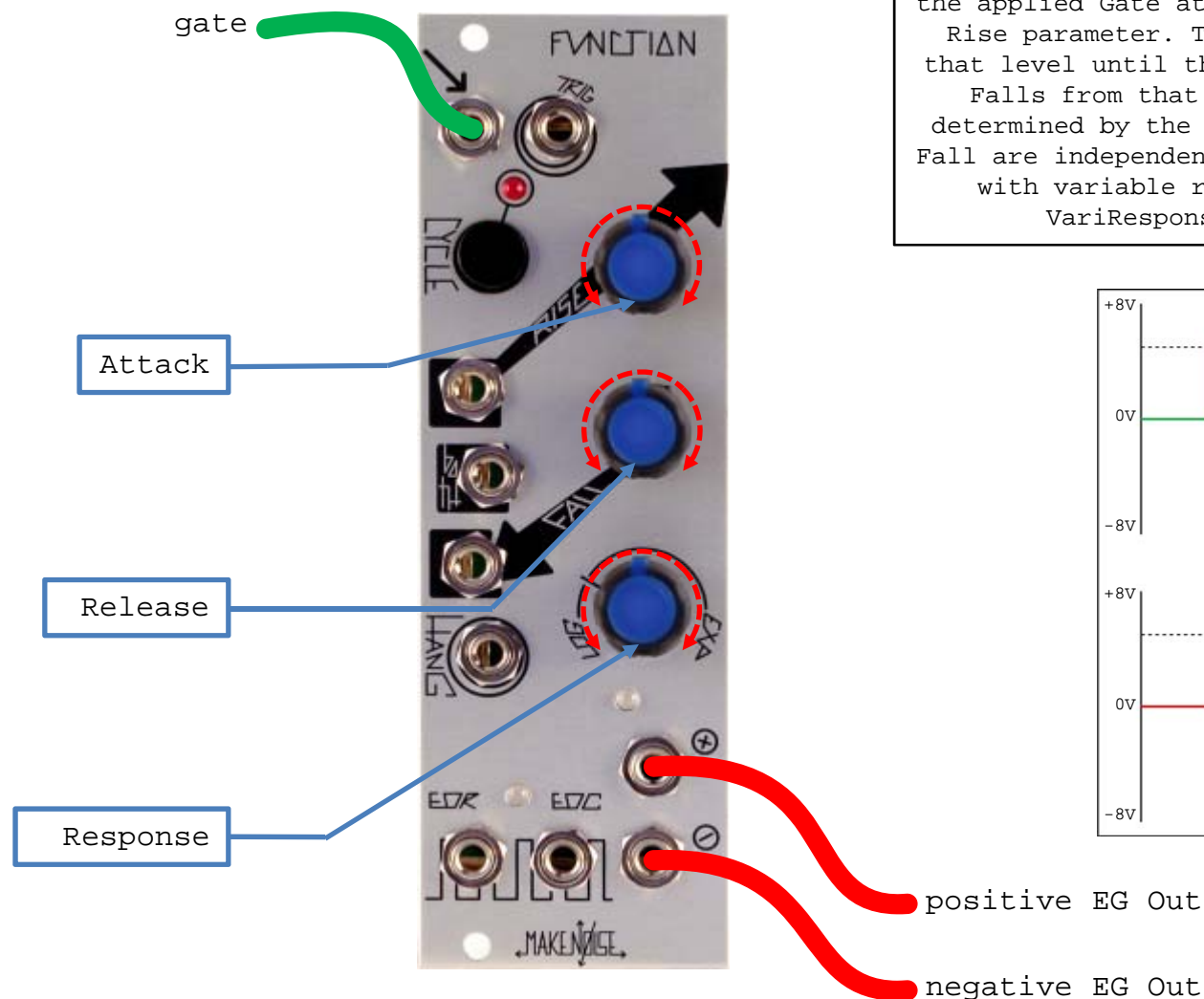
A gate applied to the Signal IN starts the function which rises from 0V to the level of the applied Gate at a rate determined by the Rise parameter. The function Sustains at that level until the Gate signal ends, then Falls from that level to 0V at a rate determined by the Fall parameter. Rise and Fall are independently voltage controllable, with variable response as set by the VariResponse panel Control.

gate

Attack

Release

Response

positive EG Out

negative EG Out

+8V

gate

0V

-8V

+8V

0V

-8V

positive EG
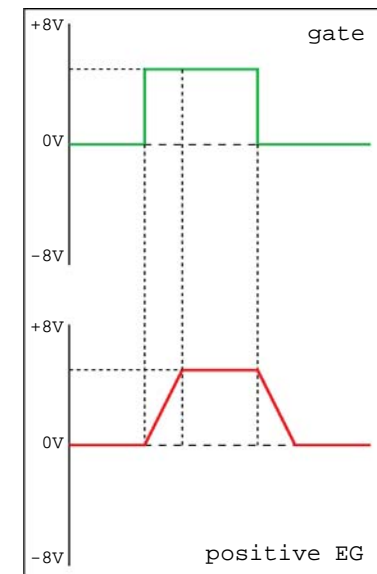
Typical Voltage Controlled Triangle Function (LFO)

Push Cycle Button. Cycle LED lights. Set Rise and Fall Panel Control to NOON. Apply desired modulation to BOTH CV input. Setting Rise and Fall parameters further CW will provide longer cycles. Setting these parameters further CCW will provide short cycles, up to audio rate. The shape of the resulting function may be varied from LOG to LINEAR to EXPO using the VariResponse panel control.

Frequency

desirated modulation

Frequency

Shape

positive Out

negative Out

+8V

0V

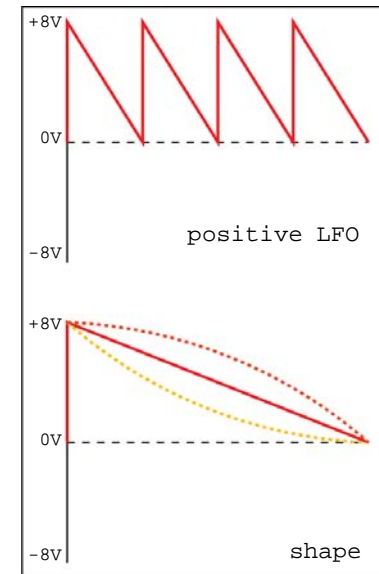-8V

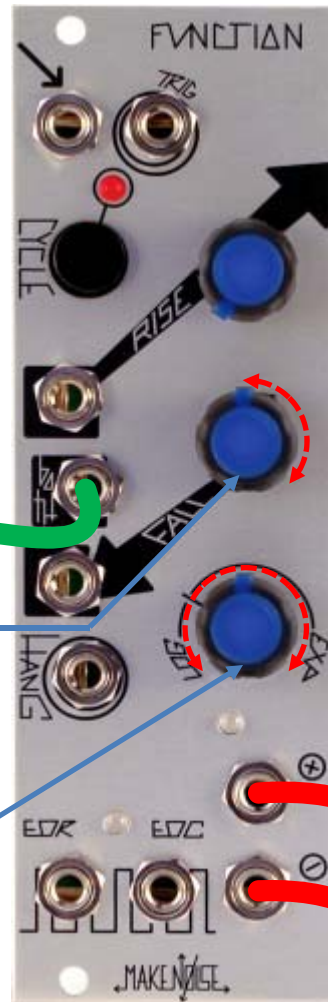positive LFO

+8V

0V

-8V

shape
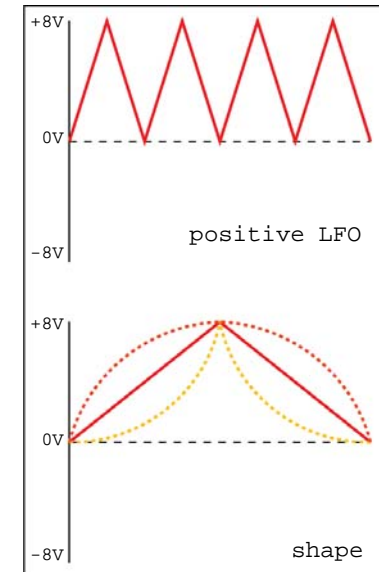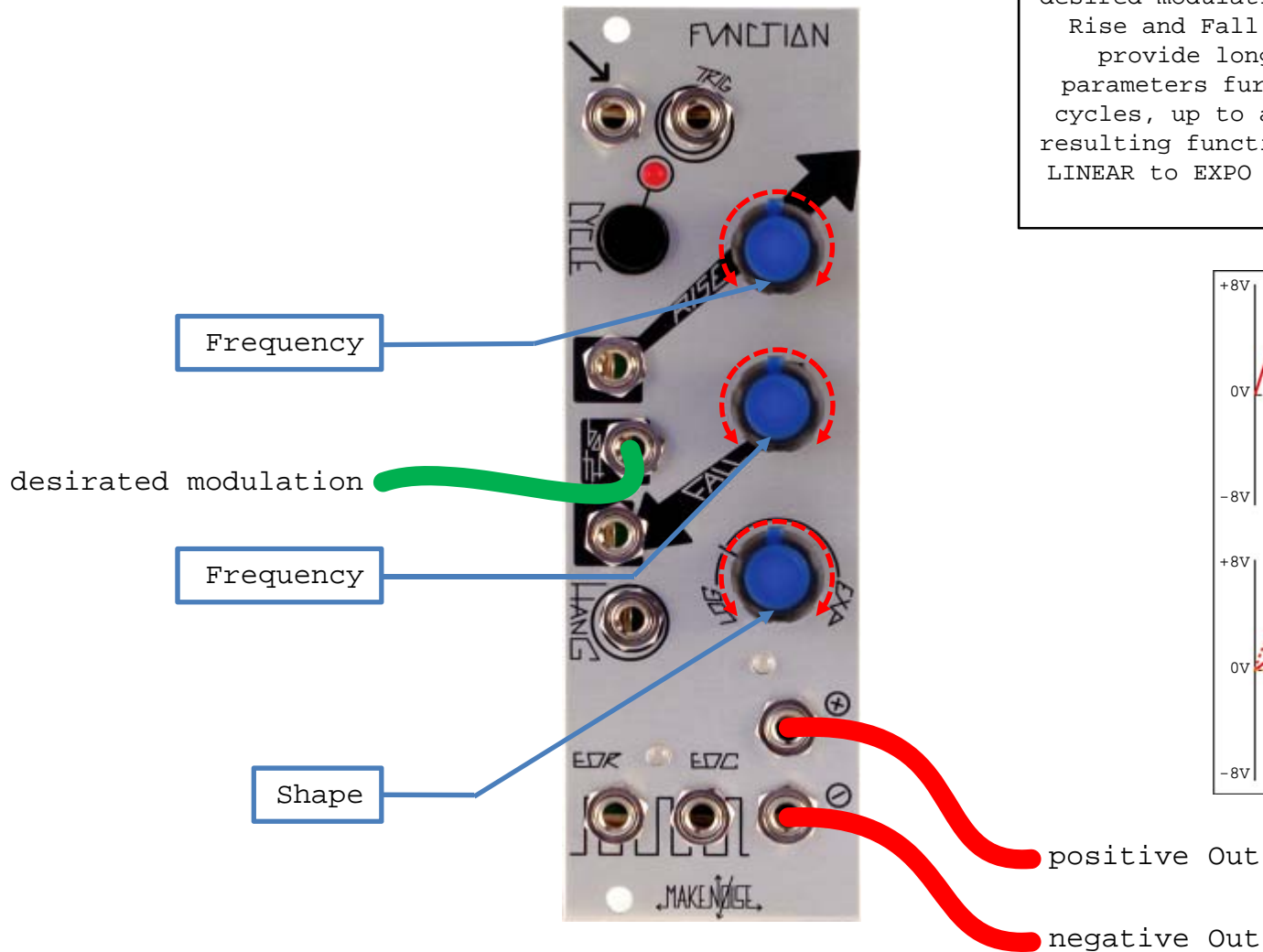
Typical Voltage Controlled Ramp Function (LFO)

As above, only the Rise parameter is set FULL CCW, Fall parameter is set to at least NOON. Fall parameter as well as the BOTH control voltage IN determines the rate.
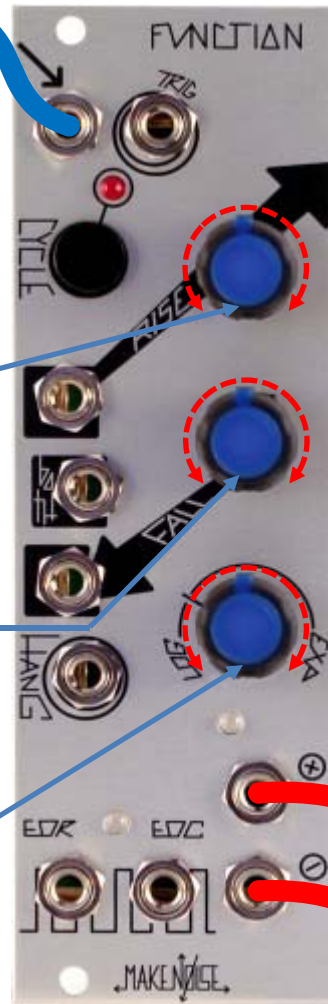
desirated modulation

Frequency

Shape

positive Out

negative Out

+8V

0V

-8V

positive LFO

+8V

0V

-8V

shape

VC LAG/ Slew Processor/ Portamento

signal to be
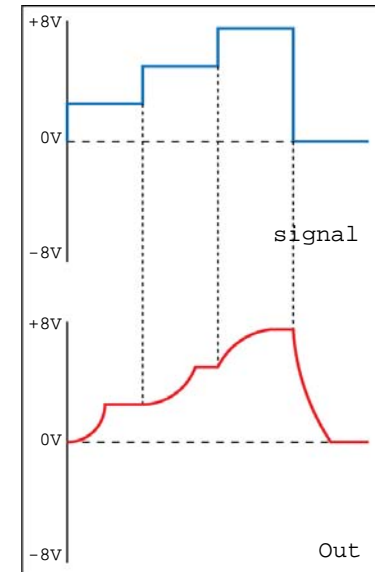slewed

A signal applied to the Signal IN is slewed according to the RISE and FALL parameters. Variable response from Log through Linear to Exponential, as set by the VariResponse panel Control. Portamento is traditionally LOG response. The inverse of the resulting function is available at the Inverted Signal OUT.

slew RISE

slew FALL

Response

Out

Inverted Out

# Independent Contours (Expo Rise w/ Log Fall and vice versa)

Set VariResponse to Full CCW for Log response. Patch Inverted OUT to Rise CV IN. This yields Expo Rise with Log Fall for most any function. If Inverted out is patched to Fall CV IN, Log Rise w/ Expo Fall is achieved. By setting VariResponse to Linear, combinations of Linear and Expo or Log are possible.

Out
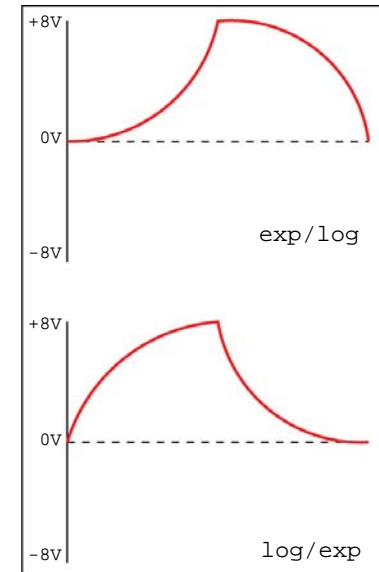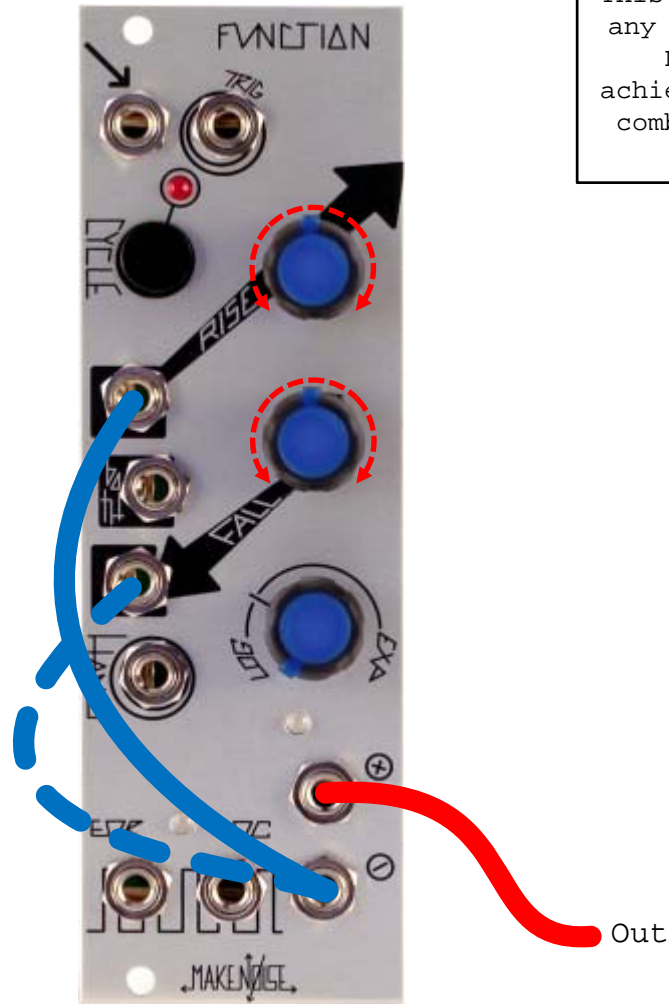
Envelope Follower

signal to be
followed
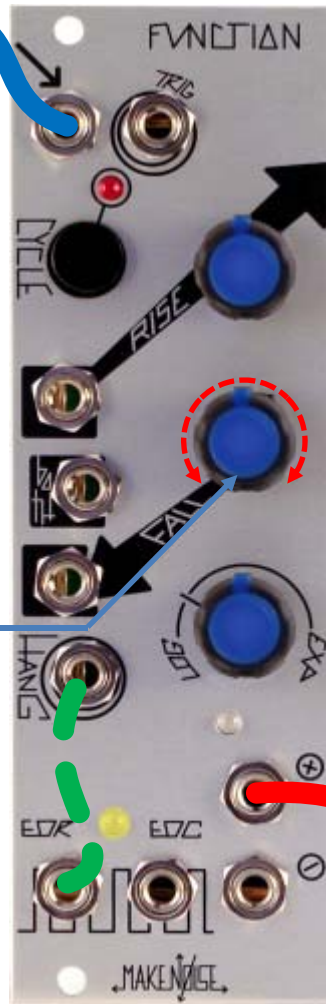
Apply Signal to be followed to Signal IN.
Set Rise to NOON. Set and or modulate FALL
Time to achieve different amounts of
Smoothing. Take output from NonInverted
Signal OUT. Increasing the Fall Time to
beyond 70% will result in the Peaks being
held for long periods of time. EOR and EOC
will also indicate activity at the Signal
IN. A variation on this patch has EOR
patched to the HANG IN. The Peak is detected
and held until user resets (by removing
patch cable from HANG IN).

Smoothing

Out

Multiplication (VCA)

positive control
signal to be
multiplied

positive multiplier
control signal
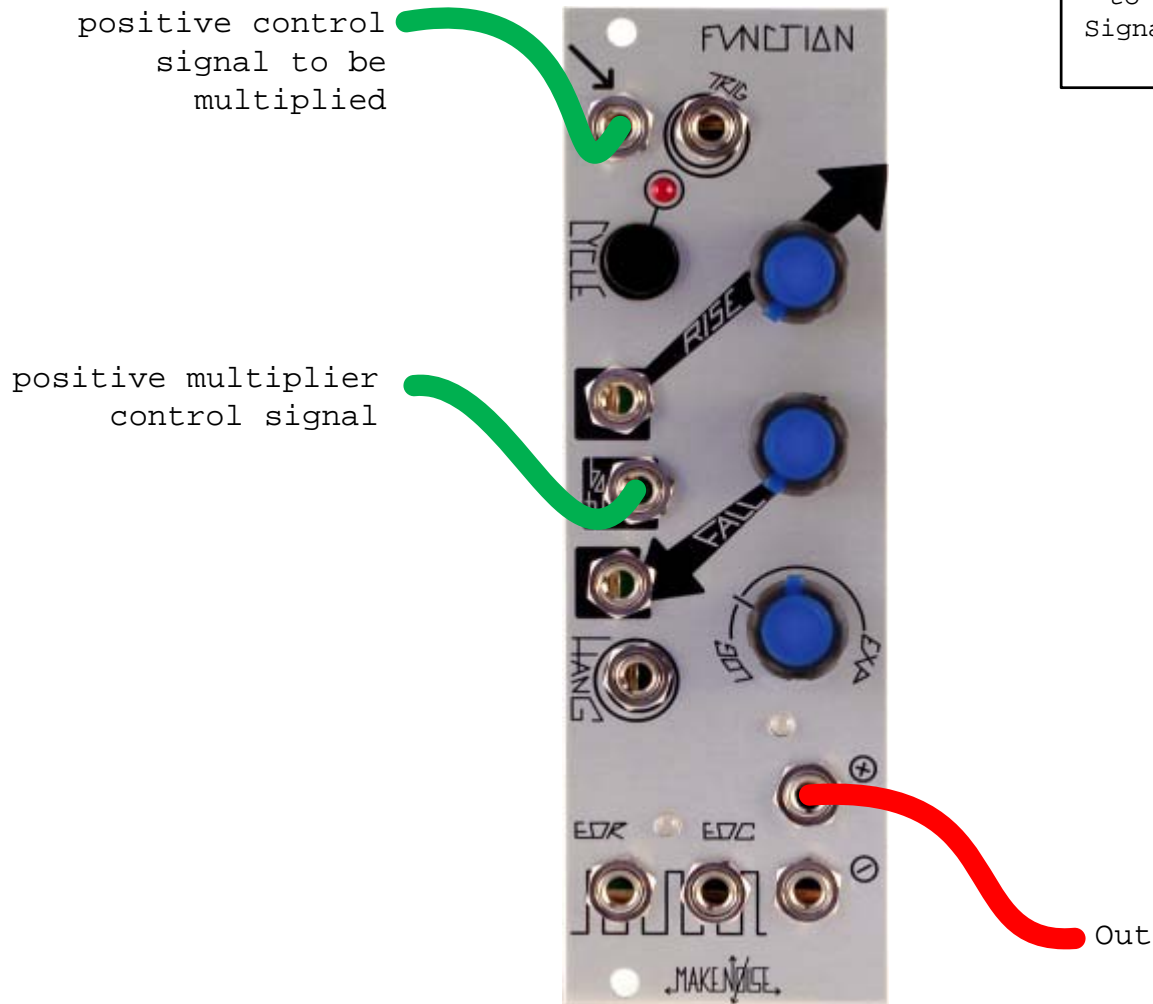
Apply positive going Control Signal to be
multiplied to Signal IN. Set Rise and Fall
to full CCW. Apply positive going Control
Signal (multiplier) to BOTH Control IN. Take
output from Signal OUT.

FVNCTIAN

TRIG

CYCLE

RISE

FALL

LOG

EXP

HANG

EOR   EOC

⊕

⊖

Out

MAKENOISE

Typical Voltage Controlled Pulse (Clock, LFO)
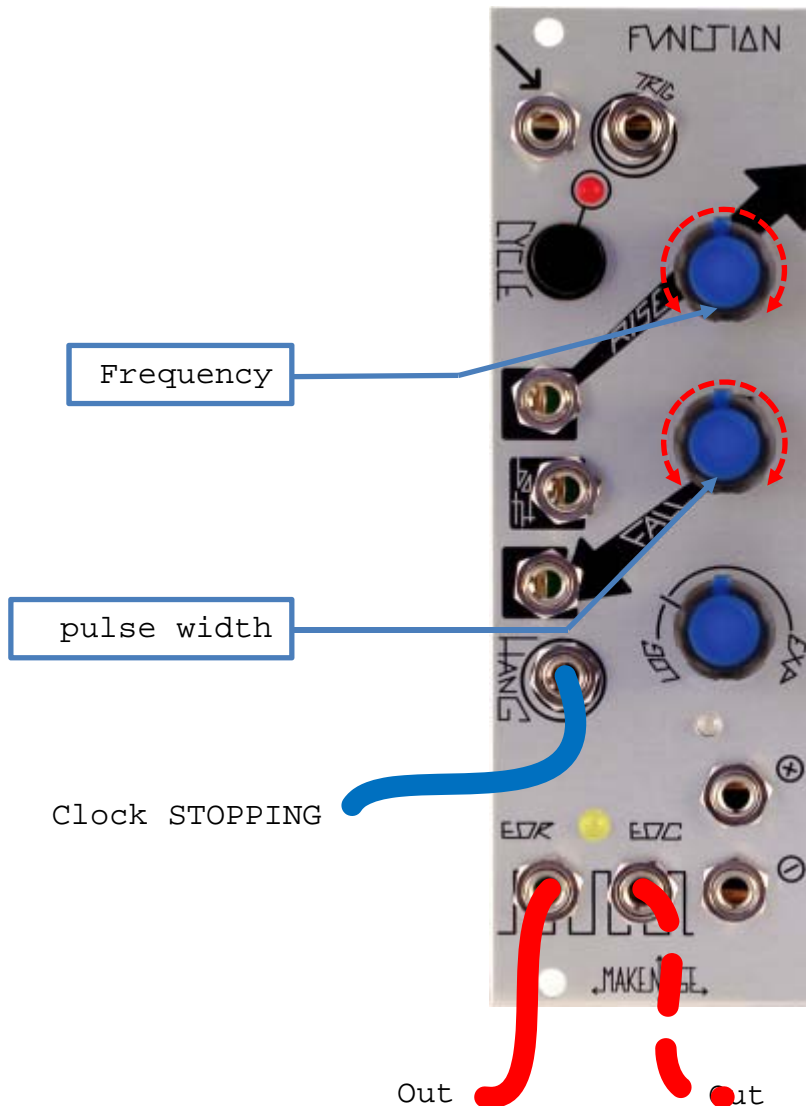
Same as Voltage Controlled Triangle Function, only the output is taken from EOC or EOR. Using EOR, the RISE parameter will more effectively adjust frequency, and FALL parameter will adjust pulse width. Using EOC, the opposite is true: where Rise more effectively adjusts Width and Fall adjust frequency. All adjustments to Rise and Fall parameters will affect frequency. HANG input will act as Start/ Stop control with the Clock STOPPING when you send a Gate HIGH to HANG.

Frequency

pulse width

Clock STOPPING

Out

Out
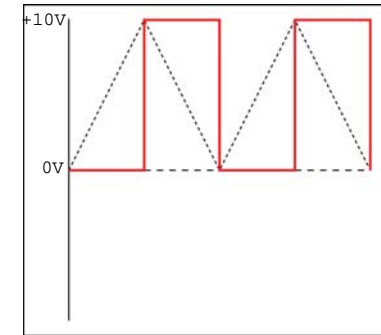
FLIPFLOP (1Bit Memory)

Gate/logic

Reset

"Q" Out

"NOT Q" Out

In this patch, Trigger IN acts as the "Set" input, and BOTH Control IN acts as the "Reset" input. Apply Reset signal to BOTH Control IN. Apply Gate or logic signal to Trigger IN. Set Rise to Full CCW, Fall to Full CW, VariResponse to Linear. Take "Q" output from EOR, "NOT Q" from the EOC OUT. This patch has a memory limit of about 3 minutes, after which it forgets the one thing you told it to remember.
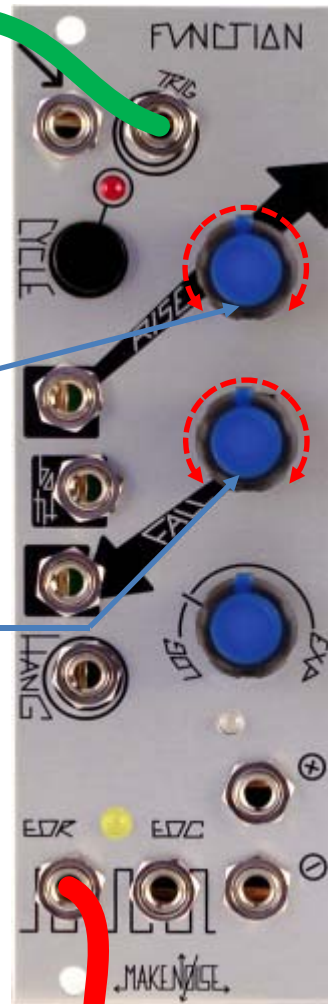
Voltage Controlled Pulse Delay Processor

Apply Trigger or Gate to Trigger IN. Take output from End Of Rise. RISE parameter will set the delay and Fall parameter will adjust width of the resulting delayed pulse.
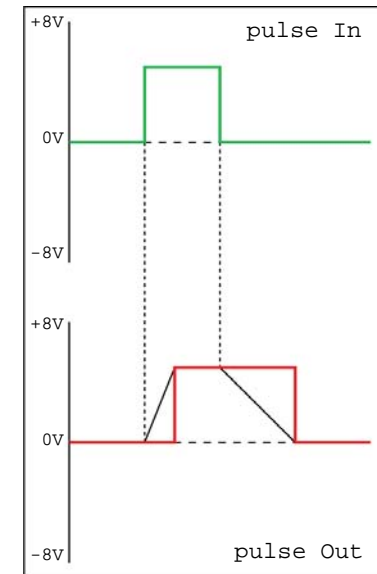
Trigger or Gate

FVNCTIΔN

delay

width of delayed pulse

Out

pulse In

+8V

0V

-8V

+8V

0V

-8V

pulse Out

Voltage Controlled Flam

Apply Trigger, Clock or Gate to Trigger IN. Set Rise for Full CCW. Fall for at least 50%. Take output 1 from End Of Rise, and patch to Optomix CH. 1 Strike IN. Take output 2, the Flam, from EOC, patch to Optomix CH. 2 Strike IN. Apply Signal(s) to be Flammed at Optomix Signal IN 1 and 2. Monitor SUM out. Flam control is performed with the Fall parameter.
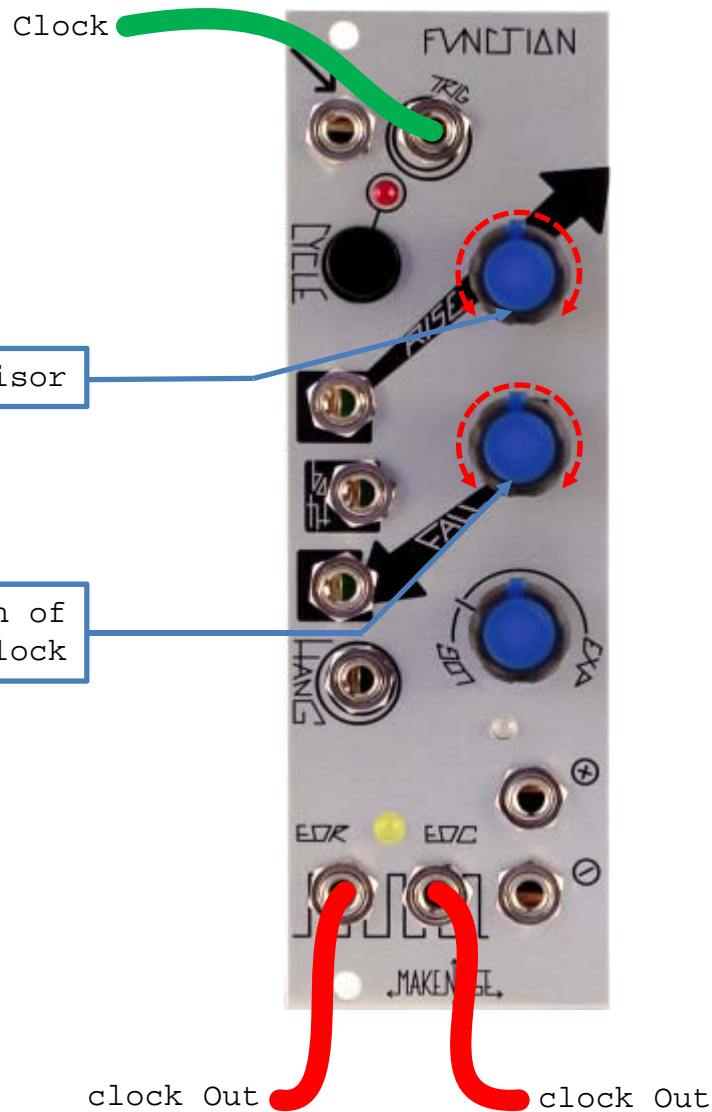
signal to be Flammed
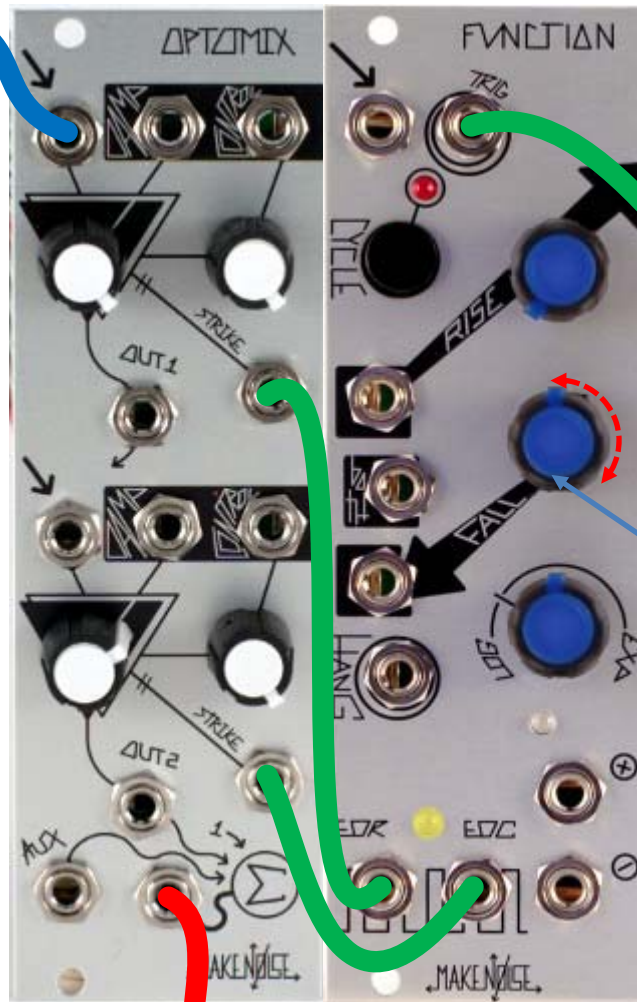
Trigger, Clock or Gate

Flam contol

Out

Voltage Controlled Clock Divider

Clock

Clock signal applied to Trigger IN is processed by a divisor as set by Rise parameter. Increasing Rise sets divisor higher, resulting in larger divisions. Fall time adjusts the width of the resulting clock. If the Width is adjusted to be greater than the total time of the division the output will remain "high." Take output from EOR or EOC.

divisor

width of
resulting clock

clock In

+8V

0V

-8V

+8V

0V

-8V

EOR clock Out

clock Out

clock Out
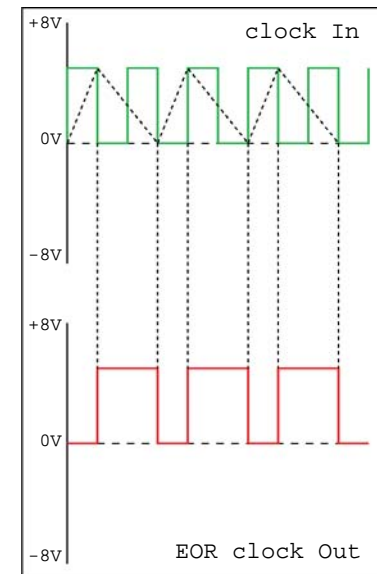
Sample & Hold

signal to be processed

wide Clock

range

range

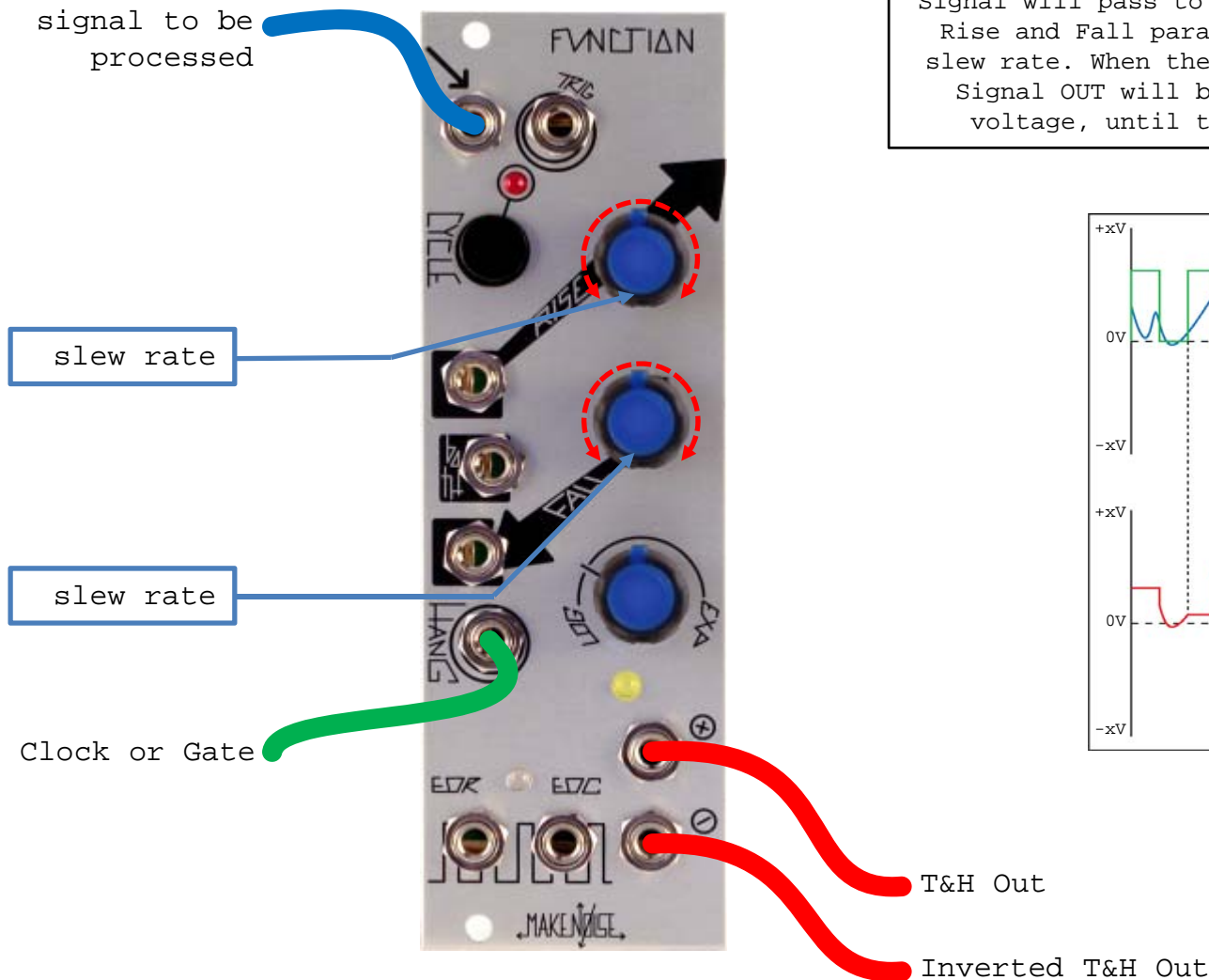Signal to be processed is patched to Signal IN. Clock signal patched to HANG IN. Clock signal must be wide in order to achieve S&H. In other words, the clock should be HIGH most of the time, going low for only a short time. An example of this type of clock signal would be to use another FUNCTION (or a channel of a MATHS). Use the EOC, with Fall set to Full CCW and setting the Rise to determine the rate. The Rise and Fall parameters determine the range of possible values.
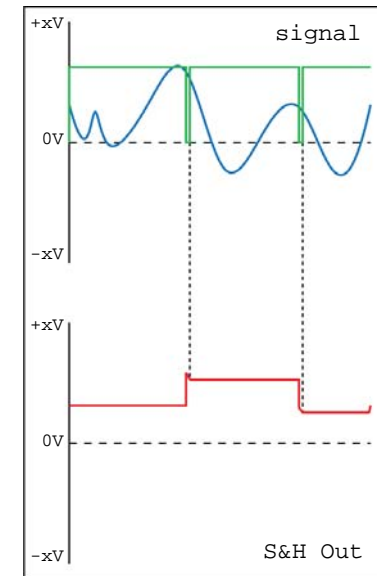
S&H Out

Inverted S&H Out

Track & Hold

signal to be processed

Signal to be processed is patched to Signal IN. Clock or Gate signal patched to HANG IN. Signal will pass to the Signal OUT with the Rise and Fall parameters determining the slew rate. When the HANG IN goes HIGH, the Signal OUT will be held at the current voltage, until the HANG IN goes Low.

slew rate

slew rate

Clock or Gate

T&H Out

Inverted T&H Out
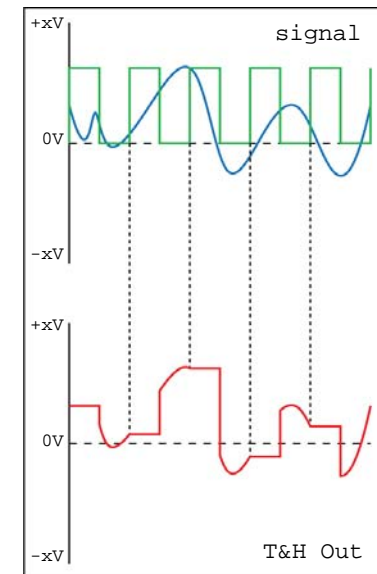
Staircase Function (Triggered or Continuous)

Set up for Typical Voltage Controlled LFO (see above). Patch clock signal to HANG IN. Clock should be at higher frequency then that of the function.

Frequency

Frequency

higher frequency Clock

Shape

staircase Out

Inverted staircase Out

+8V

0V

-8V

LFO

+8V

0V

-8V

staircase Out