

Sport Modulator illustrated manual patch

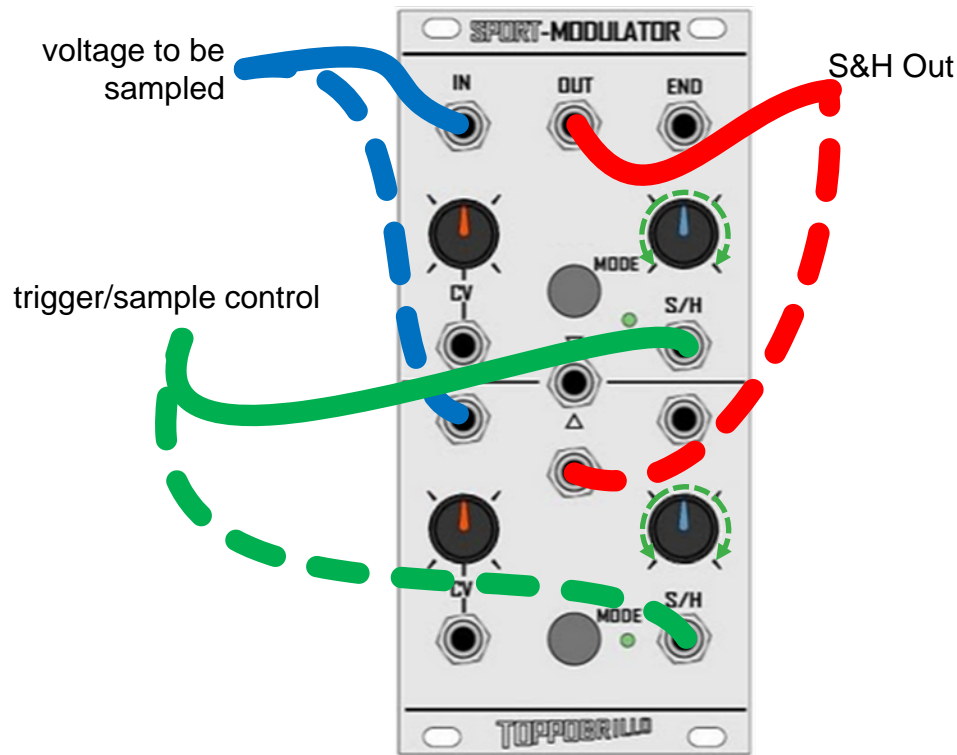


by Demonam

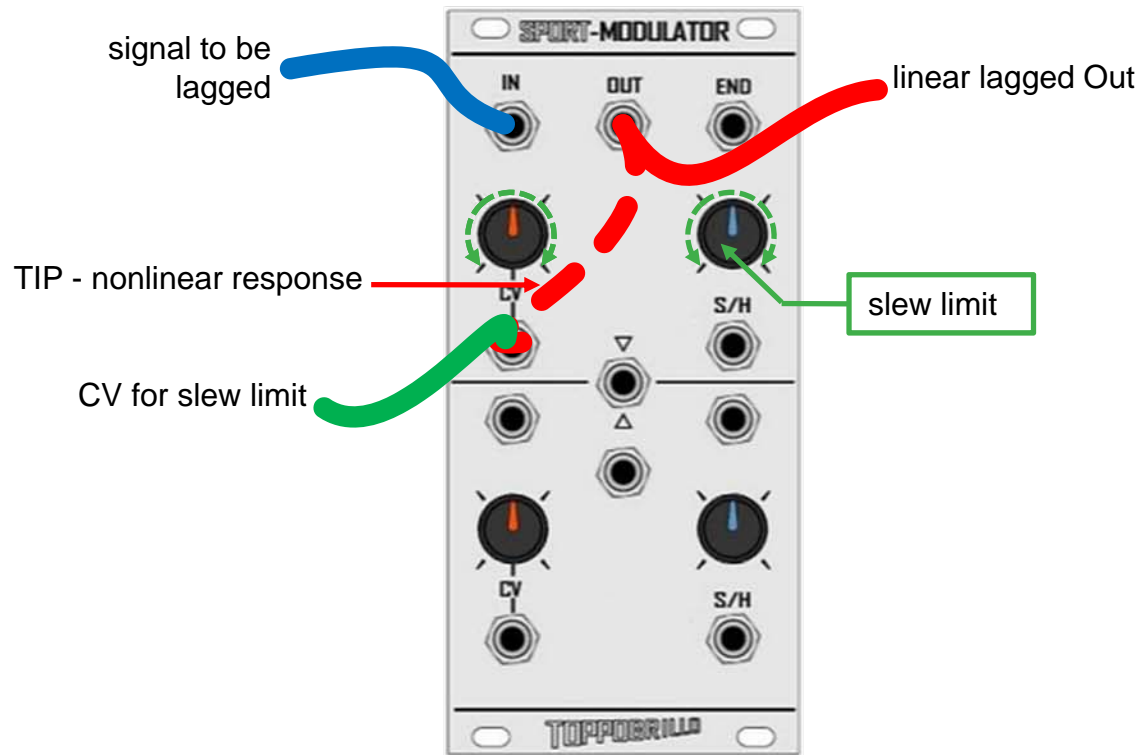
Index

- 01...sample and hold
- 02...lag processor
- 03...track (lag) and hold
- 04...VCLFO/clock
- 05...sync'd modulations
- 06...VC divider/ cascaded dividers/ suboscillators
 - 07...slope detector/ "velocity gates"
 - 08...BIT crushing' with HF rolloff
- 09..."autolag" sequencing ala Buchla MARF etc
 - 10..."Serge Random Source" patch
 - 11..."digital" noise oscillator
- 12...quadrature function generators w/ hold- requires an EXOR and NOT gate such as Doepfer A-166

sample and hold



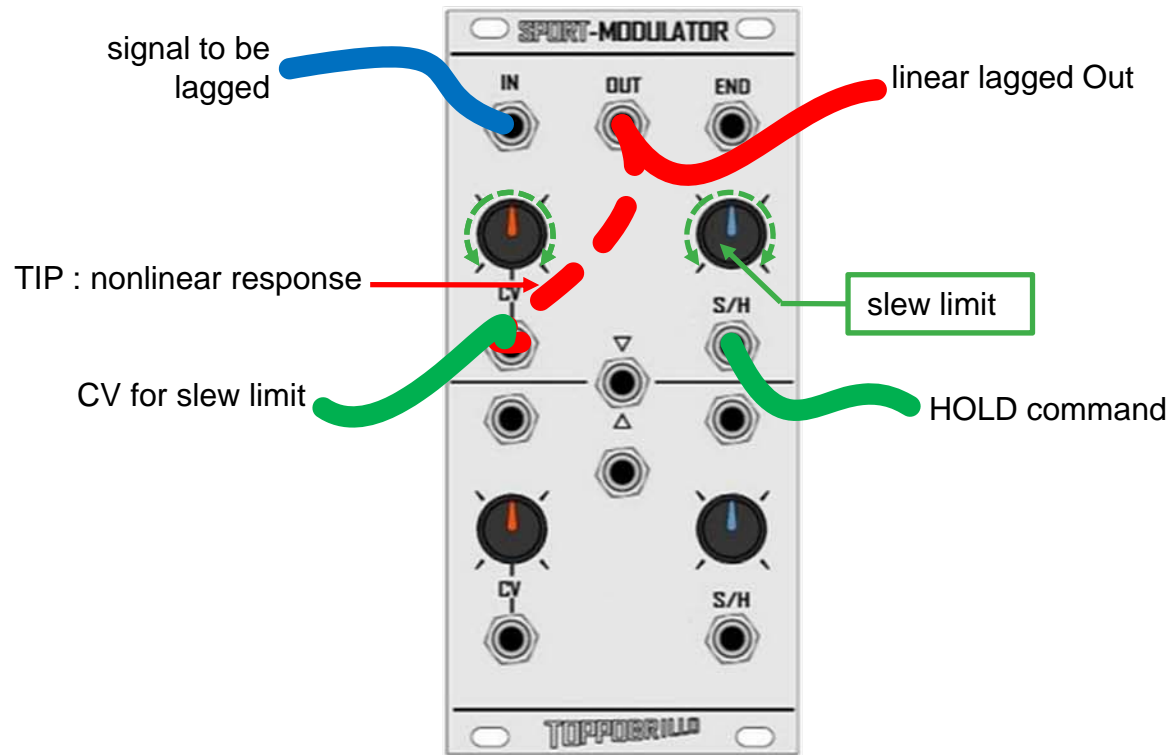
each section can be used as a sample and hold with variable slew-limiting by pressing the MODE switch [the LED will light] use the IN for the voltage to be sampled and S/H input as the sample control.



each section can perform the duties of a linear lag processor by use of the external input. the slew limit is set by the manual control and CV.

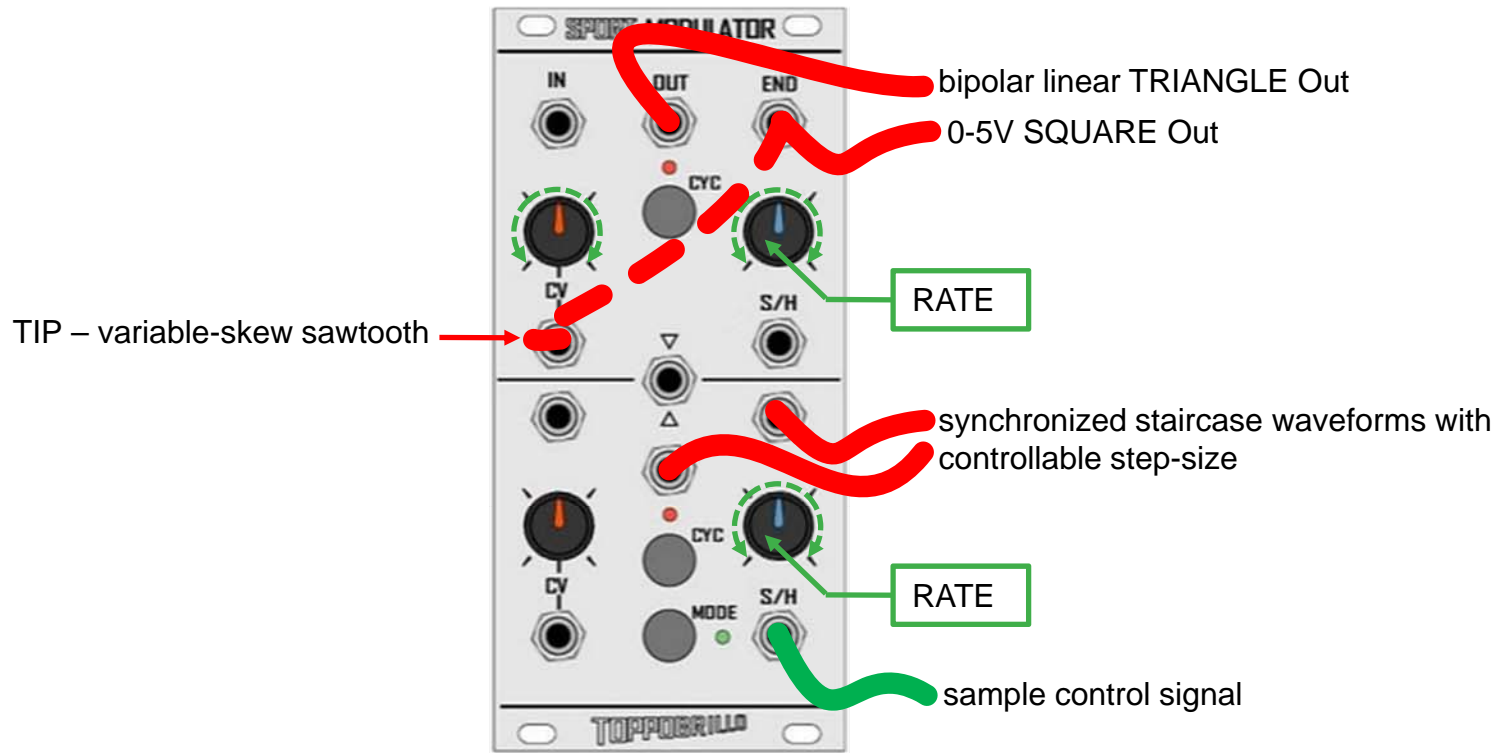
TIP- get a nonlinear response by feeding the ouput back into the VC in.

track (lag) and hold



same as above, use the S/H in for HOLD command.

VCLFO/clock



each section essentially becomes a wide-range VCLFO when the CYCLE switch is pressed. CYCLE mode takes priority over an external input, if present.

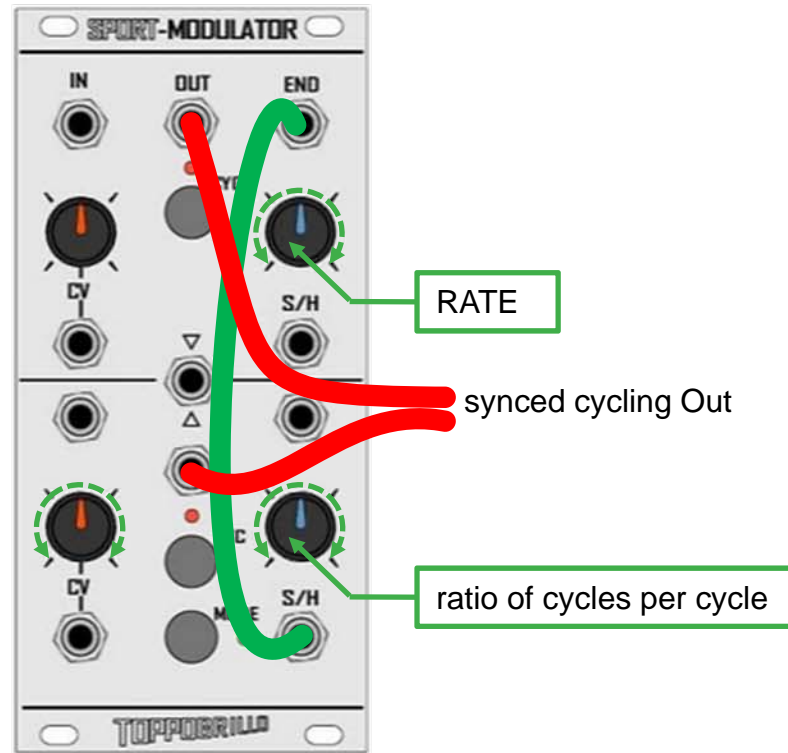
If the section is in LAG mode, a bipolar linear TRIANGLE wave is available at the OUTPUT jack. a SQUARE wave is present at the END output with an output range of approximately 0-5V. The S/H input can be used to 'freeze' the LFO at any point in its cycle.

in HOLD mode synchronized staircase waveforms with controllable step-size can be generated with an external sample control signal.

TIP- obtain a variable-skew sawtooth wave from the OUTPUT by patching END into the VC input, and adjusting the level control.

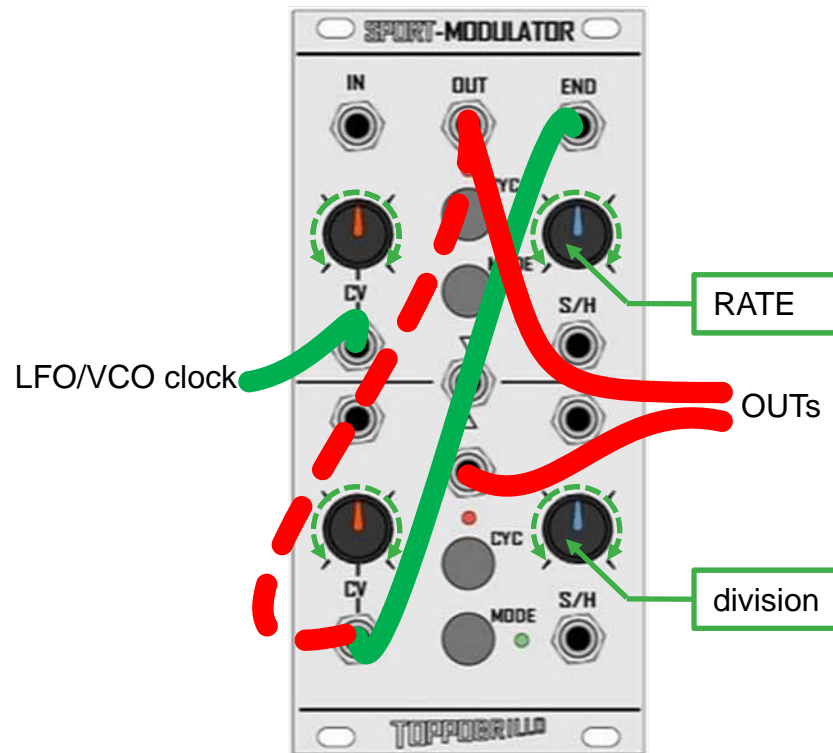
When cycling in LAG mode, the MANUAL control range is from around .033Hz [1 cycle in 30 seconds] to around 700Hz. with an external control src, this range can be extended from completely stopping the cycle to around 1.5kHz.

sync'd modulations



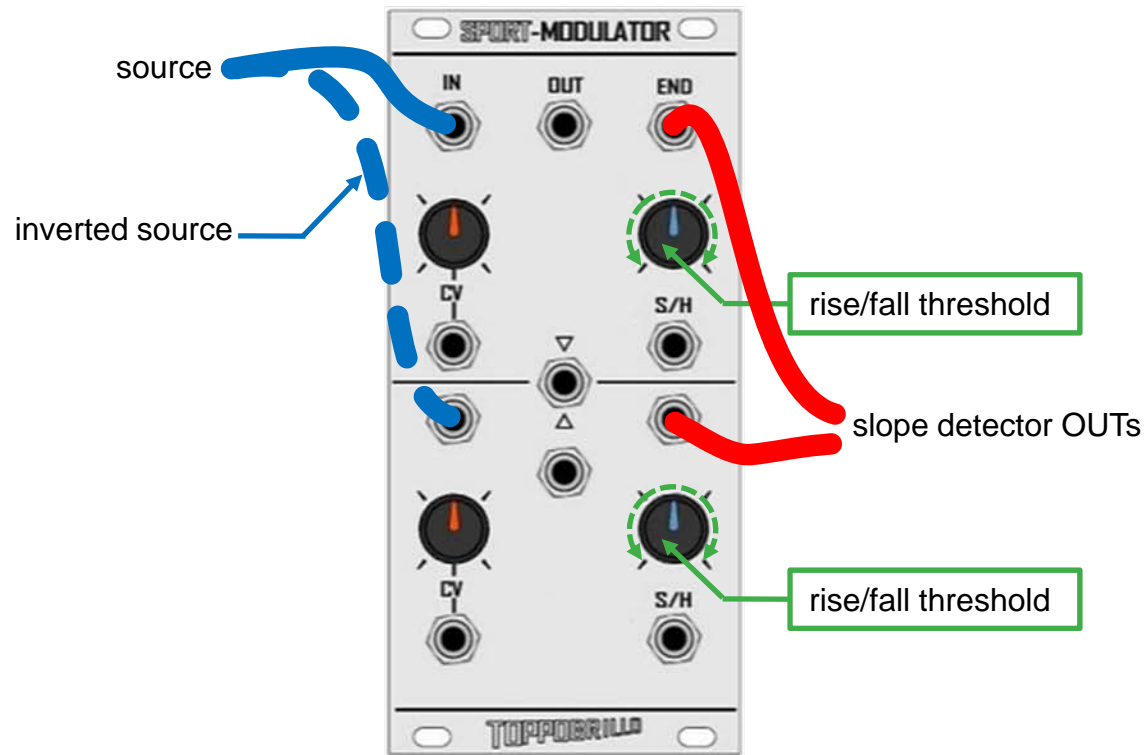
set one section to cycle in LAG mode, set the other to cycle in HOLD mode. use the END out of the 1st section to clock the other section. you will have a synced cycling of the 2 sections to send to whatever. the RATE that the 2nd section is set at controls the ratio of cycles per cycle.

VC divider/ cascaded dividers/ suboscillators



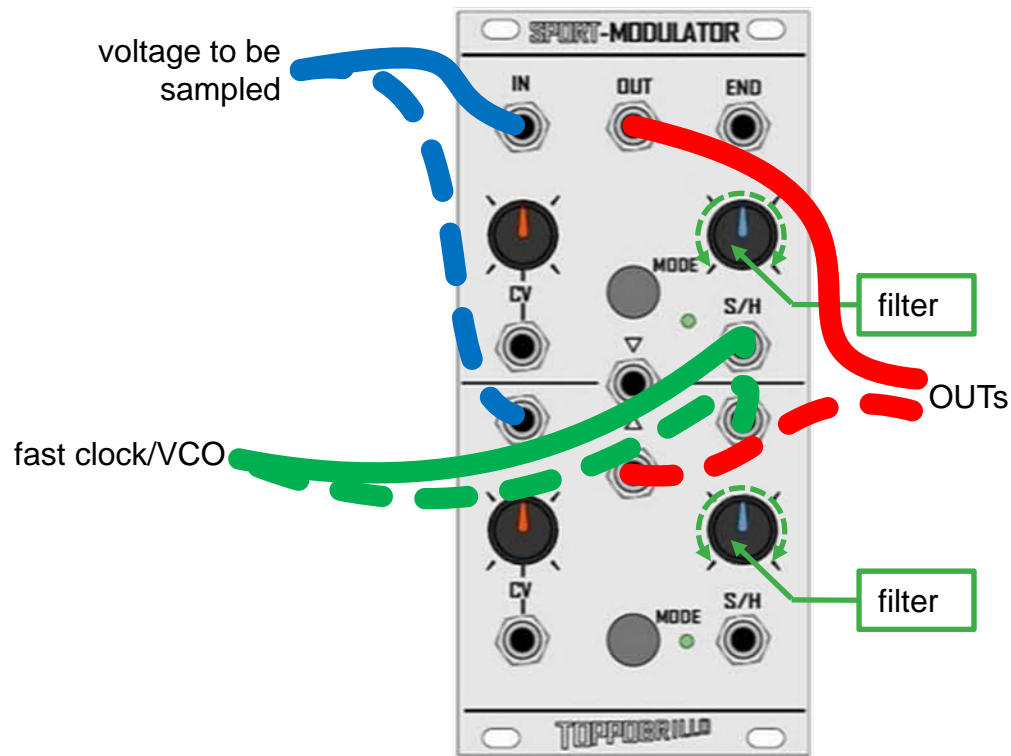
put 1 section of the SM in HOLD mode and set it to CYCLE. clock it with an external LFO or VCO or something. the END out is now a variable division of the input freq according to the RATE and CV. take that END out [or just the OUT itself] and send it to the other section of the SM in the same mode for another variable division. the OUTs are of course nice staircases to climb up and down. use as suboscillators

slope detector/ "velocity gates"



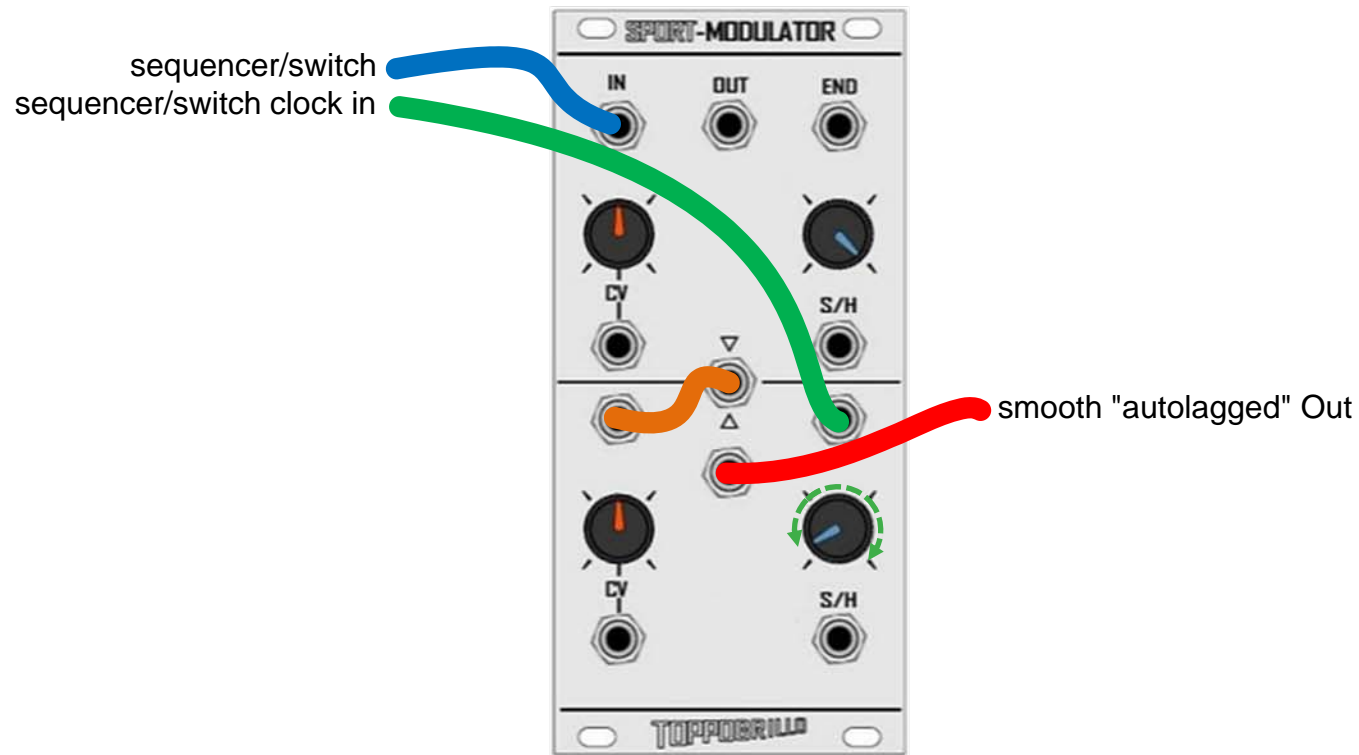
with both sections in LAG mode, plug an input src into the IN of 1 section, take an inverted copy of that same src and go to the IN of the other section. the RATEs act as 'threshold' controls for rising and falling slopes. if your input signal rises or falls faster than the slew rate allows, the END outs will indicate this by going low and returning high when the input returns to a steady state. this can be very useful with controllers such as joysticks, as it responds to the 'velocity' of the movement.

BIT crushing' with HF rolloff



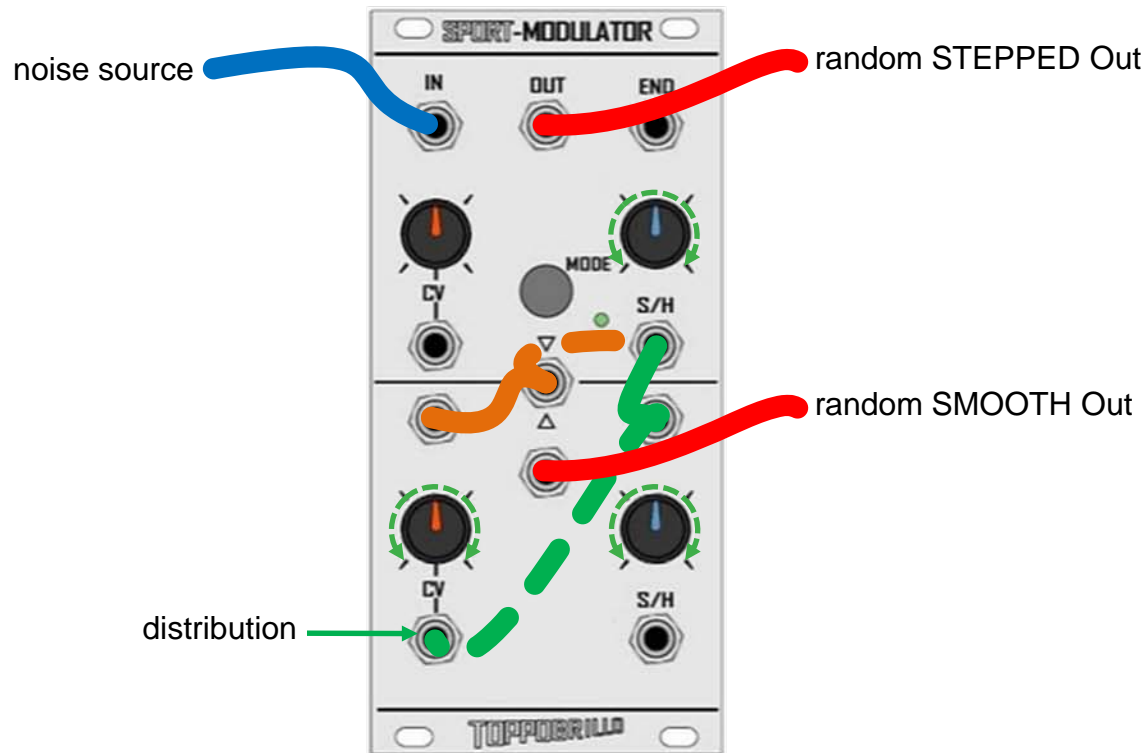
works the same way as the sample and hold patch. use an external VCO or something relatively fast for the clock, the RATE acts as a nice filter and you're in stereo

"autolag" sequencing ala Buchla MARF etc



TOP section in LAG mode, sequencer [or switch] into the IN of the TOP section. COMPARATOR out to the IN of the bottom section, BOTTOM END out to the clock in of the sequencer or switch. turn the RATE of the TOP section all the way CW. turn the RATE of the BOTT section own to around 8 o'clock for slower stuff, up to whatever for audio. the smooth "autolagged" output is available at the OUT of the BOTTOM section for your pleasure

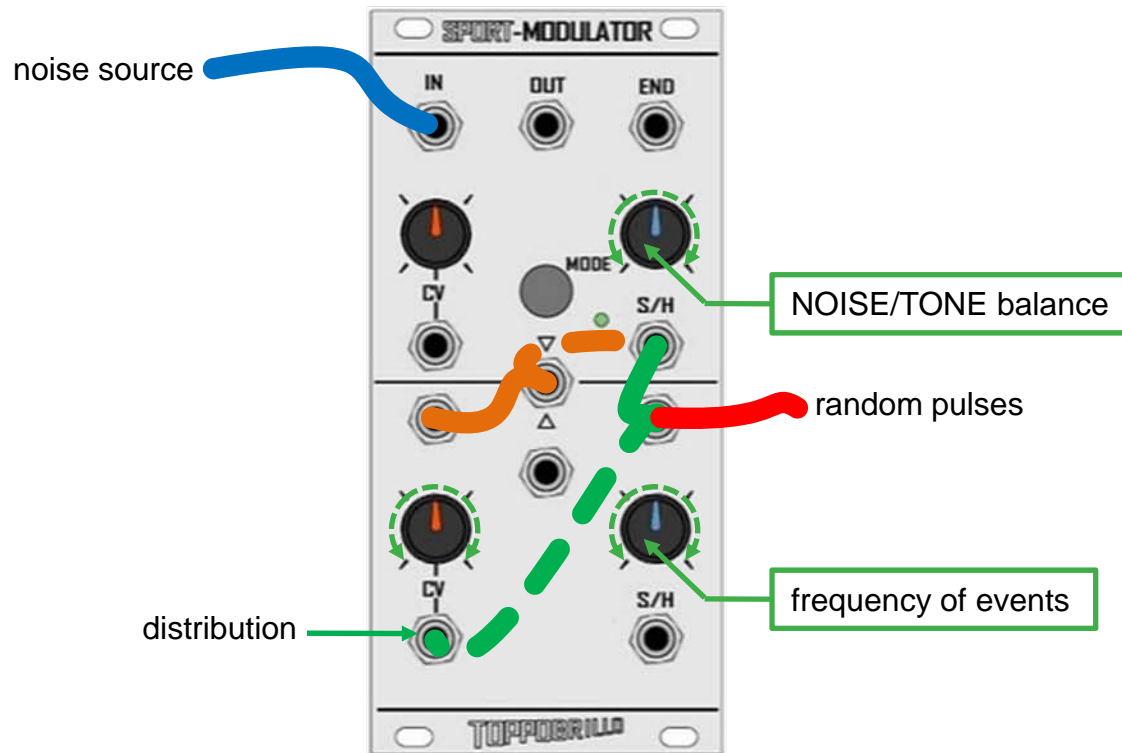
"Serge Random Source" patch



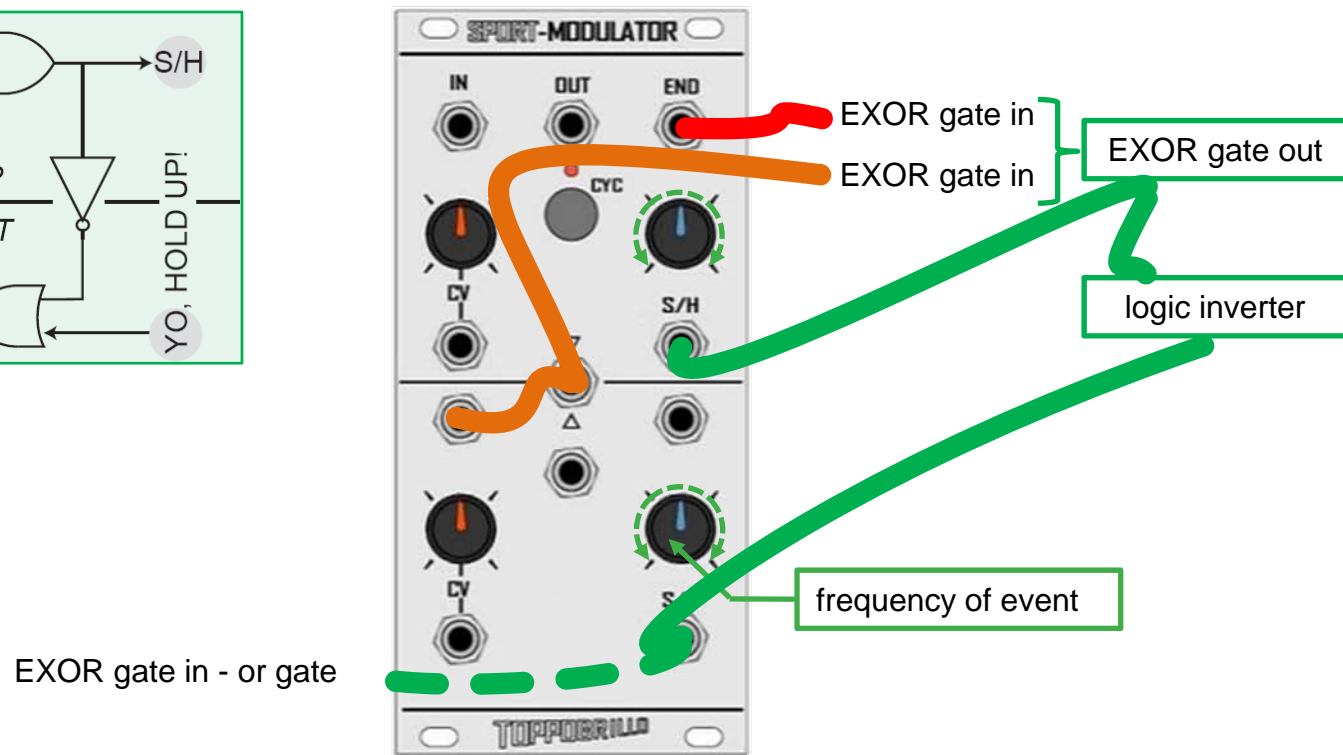
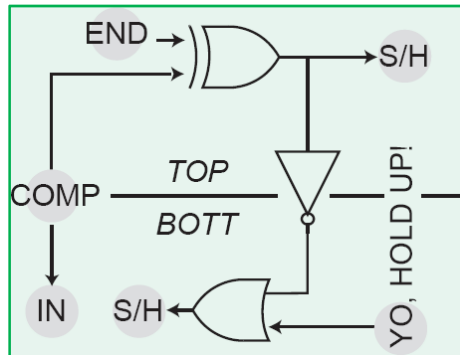
TOP section HOLD mode. plug a noise source into the IN of the top section. COMP out to BOTTOM section IN, END [or the COMP out maulted] out of BOTTOM section to TOP S/H in. the TOP OUT is random STEPPED and the BOTT out is random SMOOTH.

you can patch the END out of the BOTTOM section (or the COMP out) to BOTTOM CV in for some control over distribution. try other inputs as well.

"digital" noise oscillator



same patch as above - use noise as the input [you can use any type of signal IN for rad sounds] the END out of the BOTTOM will give you awesome flavors of random pulses.
the RATE of the TOP section is NOISE/TONE balance, RATE of BOTT is frequency of events



TOP section END to 1 input of an EXOR gate. mult. COMPARATOR to BOTTOM section IN and to the other input of the EXOR gate [be sure it is OK with bipolar signals]. mult the out of the EXOR gate to a logic INVERTER [for XNOR] and to S/H in of TOP section. patch the INVERTER out to the S/H in of BOTTOM section. set TOP section to cycle. add an external HOLD input with an or gate

Thanks

Navs for corrections