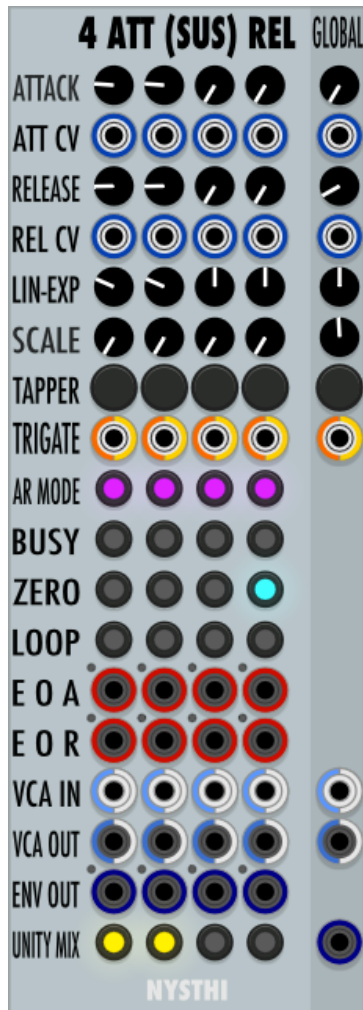


Nysthi 4 ATT (SUS) REL

4 ATT (SUS) REL is a Quad Unity Mixer, Envelope Generator, Function Generator. This is a quick guide to its use.

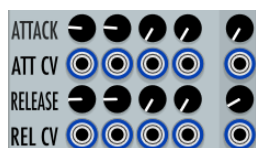


There are four separate envelopes and some of the parameters have a global knob to change all the values at once.



Envelope

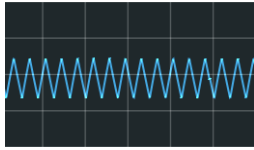
The attack/release section with CV inputs. No need to go through these I suspect!



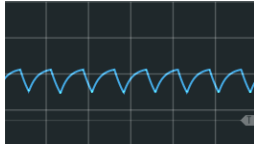
Envelope Shape



This is the shape of the envelope – Linear or Exponential
Linear gives a more angular Envelope shape



Whereas an exponential setting gives a more rounded shape.

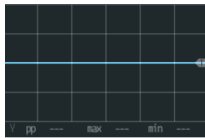


Fully anticlockwise gives a linear shape and fully clockwise gives an exponential shape. In between gives all the variations between.

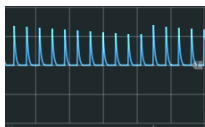
Envelope size



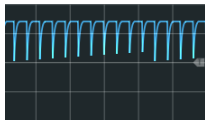
Scale is the amplitude of the envelope.
At 12 o'clock the envelope is at zero



Scale fully anticlockwise – full amplitude



Scale fully clockwise – Inverted



Manual Triggers



Basically, you can trigger any of the envelopes individually or globally

Envelope mode



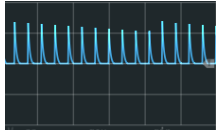
There are two modes for the envelope

- a) Attack – Release (AR)
- b) Attack –Sustain-Release

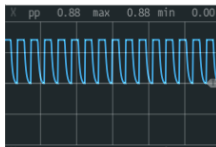
These can be switched by the buttons.

Pink is AR mode and unchecked is ASR mode.

When a trigger/gate is received AR simply the envelope goes through its full cycle without pause.



Whereas in ASR the envelope stays high as long as there is a gate signal present.



Retrigger Types

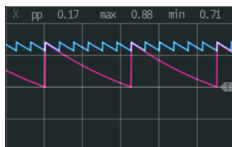
BUSY

In a situation where the release is long and the envelope has not finished before a new trigger arrives, the envelope will begin again from where it is in the cycle.

The envelope has not reached 0 but has retriggered.

When you turn on BUSY the envelope will go through its full cycle regardless of any triggers arriving. It will begin again when the next trigger after the release time ends.

Below, the two inputs are the same but the pink trace has BUSY turned on so will go through its full cycle before retriggering.



Zero is related to BUSY and affects the envelope when retriggering

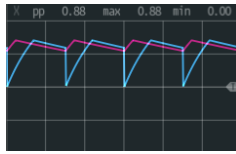
ZERO

When not on, the envelope will trigger from its current position as normal



But when on each trigger will begin the envelope from the beginning at Zero

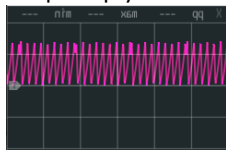
Here the pink trace does not have Zero on and retriggers from its current place whereas the blue trace has Zero on and starts from the beginning with each regardless of its current position.



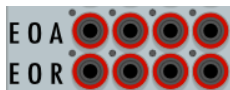
Loop



Loop simply restarts the envelope at the end of the release stage creating a looping envelope.



End of..



Sends out a 10V trigger at the end of the Attack phase (EOA) or at the end of the Release phase (EOR). This could be used to trigger a drum for instance.

Audio in and out.



Does what it says. Your audio signal goes in to the input, is sent through the envelope and scale, then is sent out of the output. Same as any other VCA.

Envelope out



This sends a copy of the envelope out so that it can be used for other purposes such as filters for example.

Unity Mix



This is a way of combining the 4 envelopes together in a summing mixer. This can give more complex envelopes.