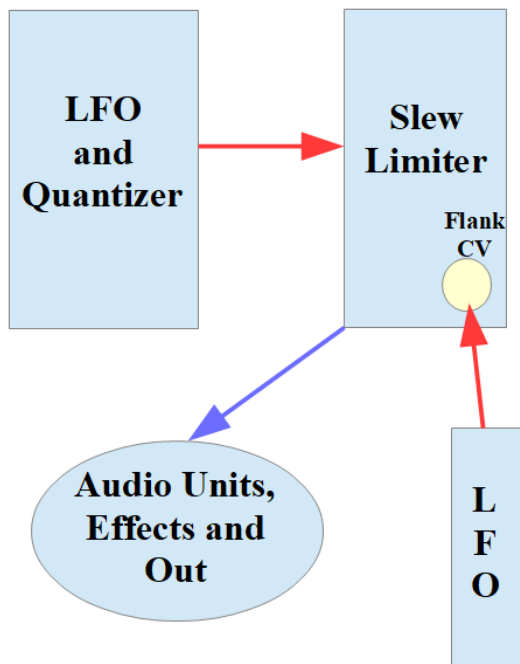


Chapter 2.10: Slew Limiter

Let's make it short: (randomly) modulating the slope of a slew limiter will add some extra sonic colours from time to time.

And when the modulation takes place only here and there, and causes quite steep flanks in the sonic development, it sprinkles the whole sound with remarkable sonic effects.



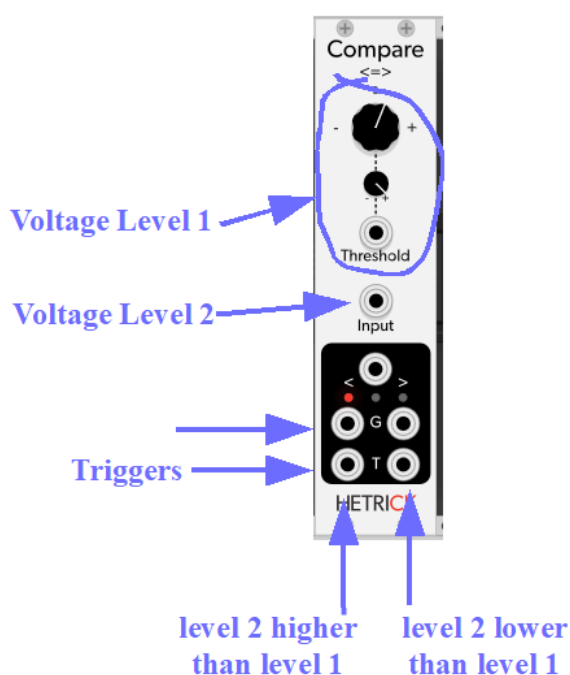
The preset “slew_1.vcv” and the video behind the following link show an example.

<https://youtu.be/adR8oFgMMYI>

Chapter 2.11: Comparators

A comparator does exactly what its name says: the module compares to voltage levels and depending on which is the higher one, and which is the lower one the module reacts. It may send out a gate signal, or a trigger pulse, or both, it may have more than only 1 output, it may have separated outputs for “higher level as” and “lower level as”. We can understand a comparator as a switch, who’s position depends on the relation of two voltage levels.

So, what can we do with a comparator. A lot more than we might think at first. Just some examples: Instead using a fixed manually adjusted level 1 we can modulate (randomly) this threshold level to make the module switch in different situations. Or we can use it as a logic module with adjustable levels for logic “high/true” and logic “low/false”. Or we can bit crush a sound by feeding it in as level 2 while we modulate level 1 (“threshold”) by a square wave, and feed the result (from the gate output) to our audio units.



Or we can turn any wave shape into a square wave by feeding it in as level 2 and adjusting level 1 at such a voltage, where we want the outputs switch from low to high.

Or we can use different audio files for level 1 and level 2 to get grain-like effects. Given all the methods of randomizing and/or complex cycling parameters I've talked about in chapter 1 a comparator turns out to be a quite flexible tool in our patches.

The preset "comp_1.vcv" and the video behind the following link show an example.

<https://youtu.be/Tv-ULIaiLUo>

Chapter 2.12: Pitch Shifter

Pitch shifters are meant to, well, adjust the pitch of an audio source, so that it fits into a mix, into its "cooperation" with other audio sources. There are – like always in the world of modular synthesis – a couple of different pitch shifters around. The video behind the following link shows some of them.

Most pitch shifters allow us to set the amount, the range of shifting the audio source's pitch measured in semitones, tones and octaves. Others show additionally the exact frequencies etc. These functions make them more suitable for exactly tuning and/or exactly modulating the tuning than e.g. an LFO-FMin combination, when we want to tune/modulate VCOs.

I like to use pitch shifters as tools for moderately changing the pitch of pre-recorded sound files from time to time, as I show in the video behind the following link. The preset "pShift.vcv" may serve as a starting point for experiments of your own, and the link leads to the mentioned video.

<https://youtu.be/6FfttQHAA7M>

Well, the question "What can I modulate and randomize" could have been answered, even without producing a whole chapter, by simply saying "everything". But giving some examples – probably the most important ones – came in handy here, I think.

The next chapter outlines the practical meaning of what I have been talking about in chapters 1 and 2 from the perspective of a composer. It doesn't emphasize technical aspects, but rather the facets of art and

musicality of a piece.

And in chapter 4 I'm going to change my point of view to the opposite, and combine the knowledge of chapters 1 and 2 to introduce technical and organisational "molecules of generative patch organisms".