

Bobs Non-Linear Phase Modulation Synth

Here is my second soft synth ever! It's a non-linear phase modulation synth in that I take a filter, send it an oscillator waveform then take the output of the filter and send it back to the phase modulation input of the oscillator via an ADSR. It's a stereo synth with 2 oscillators per channel. Now if you study the schematic you will see the odd thing about this synth is there is no filter, filtering the output waveform. Still you will find with this configuration you can achieve some really cool, useful, and weird sounds. As you can see there are 4 ADSR's, the upper ADSR of each channel is the main ADSR for the 2 oscillators. The 2 oscillators feed into a dual ring modulator (analog and digital, via button on right side, button on left side is in/out), then into the main ADSR, and then out to the effects. The next 2 ADSR's down are the modulation ADSR's. As stated above each of the 2 oscillators feed also into 2 filters, the outputs of the filters are then sent back to each of the oscillator's phase modulation inputs via the 2 ADSR's and a mixer. The mixer allows you to select one filter to each oscillator or a mix from both filters. The little buttons to the left of these 2 ADSR's invert it. The 4th ADSR down is for the filters frequency cut off. The little button to the right of tracking inverts the ADSR if desired. When first making a new preset set all the ADSR knobs to the minimum setting and then bring them up slowly to hear the effect. Some higher setting will cause a kind of white noise like distortion. Just back off on them till the distortion stops and study the presets carefully. Last are the effects. There are 2 LFO's, 1 is for a Tremolo effect and the 2nd is a pan modulation effect. The last 2 effects are a reverb and a delay. There is also a scope for visual cues, a left and right volume control, and lastly a cross fader. At full right, right channel is right and left channel is left, at full left, right channel is left, and left channel is right. When set to the center you get mono.

I have provided 20 presets to play around with and learn how it works. Also study the schematic VERY carefully to learn more on what's going on. Have fun and PLEASE if you create any new presets, make any changes, note any bugs, let me know.

Cheers, BobF.....