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Volume Swell/Slow Gear type thing to rival the POG2 Attack

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Volume Swell/Slow Gear type thing to rival the POG2 Attack (#p3403)

by **ferdinandstrat** » Tue Mar 19, 2019 8:36 am

The POG2 Attack has an incredibly fast volume swell that works like a Slow Gear but....Fast Gear. I am trying to recreate it with the FV1 but I am stuck. I tried the regular envelope block and it sorta got there but there is no way to assign pots to attack and decay. Then there's the Envelope II block that creates an incredibly distorted sound when I attack the fast or slow outputs to the volume control, but when I assign the avg output to the volume controls the pots seem to have no effect.

Any help with achieving this?

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Re: Volume Swell/Slow Gear type thing to rival the POG2 Atta (#p3406)

by **Digital Larry** » Thu Mar 21, 2019 8:31 am

The supplied envelope modules may not be the best thing to use. The original envelope module was extracted from Spin's auto-wah example and is really unusual in that it emphasizes the attack. The other one is some half baked experimental thing with a bunch of pins coming out of it to allow connecting internal signals to an output pin.

You can develop your own envelope follower with smaller blocks, starting with an "absolute value" (rectifier) and low pass filter or smoother blocks. The smoother block is a low pass filter but at the moment it does not have a control input. The variable low pass filter block probably doesn't extend low enough in frequency to be useful for this application.

Were I to seriously undertake replicating a Slow Gear, I'd probably try to find a schematic of the original and see how it was done. Is it just rectification and filtering, or is there some level/threshold/trigger/etc.? I've not done a lot of investigation here.

Thanks for your interest!

DL

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Re: Volume Swell/Slow Gear type thing to rival the POG2 Atta (#p3407)

by **ferdinandstrat** » Thu Mar 21, 2019 8:45 am

Any idea as to how make an attack and decay control?

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Re: Volume Swell/Slow Gear type thing to rival the POG2 Atta (#p3409)

by **Digital Larry** » Thu Mar 21, 2019 1:16 pm

An attack and decay control can simply be a low pass filter with a really low cutoff, but what you get is the same attack and decay times. By their nature those envelopes are exponential. If you want to make a linear attack/release thing, I don't think there's anything built in at this time that would be good for that. You can do level triggering, counting and RAMP generation at the Spin ASM level but that particular "function" has not been conceptualized to a block in SpinCAD, and I'm having a hard time imagining building it up from the existing blocks.

You can also do a fast attack by filtering the rectified input with a faster (higher freq) filter first, then through a slower filter, and use the "MAXX" or is it Maximum block to pick the higher of the two.The fast filter attacks and releases faster than the slow one, so on the attack, the max follows the fast one, and on the release it follows the slow one.

I've been messing around with a Roger Linn Adrenalinn III recently and (other than the fact that it hangs up with full output white noise every hour or so) I really love the sounds. All sorts of triggered and sequenced filter stuff with attack/decay controls. It really takes your guitar tone somewhere new. So I definitely see the appeal.

If you can figure out how to do it in Spin ASM, I can include it as a block. 😁

Don't laugh, just a few years ago I had no clue about Spin ASM or any of the things I used to develop SpinCAD.

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Re: Volume Swell/Slow Gear type thing to rival the POG2 Atta (#p3410)

by **ferdinandstrat** » Thu Mar 21, 2019 3:22 pm

Can you please post an image of the setup you suggested in SpinCAD?

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Re: Volume Swell/Slow Gear type thing to rival the POG2 Atta (#p3419)

by **ferdinandstrat** » Fri Mar 22, 2019 12:29 pm

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Re: Volume Swell/Slow Gear type thing to rival the POG2 Atta (#p3421)

by **Digital Larry** » Fri Mar 22, 2019 4:15 pm

I'd just use one of the inputs, unless you are sure that the input is mono.

Run them through "Absolute Value" (Controls menu) which acts as a full wave rectifier. Then send that output to the inputs of both filters and use Maximum (or MAXX) to pick off the higher of the two. I'd use Audacity or Goldwave to create a simulator file with some tone bursts at different frequencies and burst lengths, then enable the simulator viewer. Take the control output to one of the DAC outputs and the audio input to the other one. Now you can see (more or less) how the thing is responding to the tone bursts.

The simulator viewer is log scale vertically and has its own smoothing but it will still give you a general idea of what is going on.

You probably don't need a smoother on the output of the max. The only thing I'm not sure about is whether the 1 pole HPF and LPF blocks with adjustable corner frequency will go low enough because I set the frequency range more for audio than control signals. You can of course build up this structure in SpinCAD, export to Spin ASM and then mess with the filter coefficients in the Spin ASM.

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Re: Volume Swell/Slow Gear type thing to rival the POG2 Atta (#p3422)
by **ferdinandstrat** » Fri Mar 22, 2019 10:57 pm

I tried that and it doesnt work, pick attack is noticeable and the signal is distorted.

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Re: Volume Swell/Slow Gear type thing to rival the POG2 Atta (#p3423)
by **Digital Larry** » Sat Mar 23, 2019 3:25 pm

Well, it was just an idea. I suggest you head over to the Spin forum and see if anyone has something like that over there.

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