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Gated reverb

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Gated reverb (#p2672)

by **harrytee** » Tue Feb 23, 2016 10:23 am

Hello all,
I've just built an FV-1 pedal and I am experimenting with some new designs. This looks like an excellent tool - thank you, Larry.

I am trying to build a gated reverb but struggling a little.

I've been using an envelope detector on the reverb signal and have been trying to massage the control signals into producing a digital gate signal to control a volume block. I can't seem to get the gate signal to cleanly saturate at 1 or 0 depending on the envelope though. Any hints? If I smooth things too much, the gate is too slow to close.

I will post my results up here if I succeed, naturally!

Many thanks,
Harry

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Re: Gated reverb (#p2673)

by **Digital Larry** » Tue Feb 23, 2016 1:49 pm

You can try running the envelope output through the "Slicer" block. Above the control panel set threshold, the output is 1.0. Below this threshold, it will be -1 or 0 depending on the output

setting. As long as the input signal doesn't bounce, it should be a clean transition.

I anticipate that this will be very abrupt. One thing I don't have quite yet as a stand alone block is the peak-follow on attack, then filter on decay. Right now the smoother is just a low pass filter and it will smooth both rising and falling edges. The Envelope II (New Envelope?) block extracted the peak follower from the Spin auto-wah program. This code follows peaks directly on attack and then switches to the filter on the decay section. However the "New Envelope" block is still experimental as I haven't quite figured out what it should do, etc.

I'm not where I can run the program so the slicer behavior is from memory. Give it a shot.

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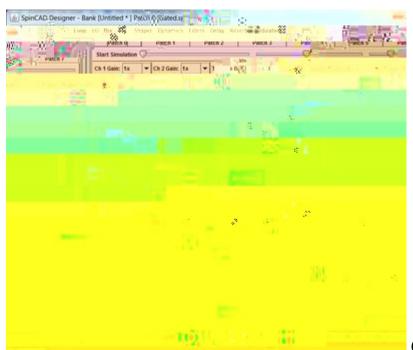- Reply with quote (./posting.php?mode=quote&f=42&p=2674)

Re: Gated reverb (#p2674)
by **harrytee** » Wed Feb 24, 2016 3:12 pm

Thanks Larry - that has gotten me close!

You need quite a percussive tone to get it to trigger then not dwell too long - perhaps need some fiddling.

This is the topology:

(./download/file.php?id=150&mode=view)

Here is an MP3:

🗎 gate.zip (./download/file.php?id=149)
(975.22 KiB) Downloaded 40 times

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Re: Gated reverb (#p2675)
by **harrytee** » Wed Feb 24, 2016 3:14 pm

I quite like the random nature of the gate open/closing actually..!

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Re: Gated reverb (#p2676)
by **Digital Larry** » Wed Feb 24, 2016 4:08 pm

The "New Envelope" and "Envelope" are quite different beasts. For one, the New one dips down when the signal hits a peak, whereas the other one goes up. Also the New envelope, I believe, has by design a faster decay. I'd try the regular "Envelope" block also with this in mind. I think it will sound different. I did make a gated reverb patch using just that approach (no slicer) awhile back.

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Re: Gated reverb (#p2677)
by **Digital Larry** » Thu Feb 25, 2016 7:15 am

It would probably be better for me to develop an actual "gate" block that stays open for a fixed amount of time after getting an over-threshold trigger. And then have an adjustable decay on it. Somebody want to write it for me? 🔀😁

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Re: Gated reverb (#p2682)

by **harrytee** » Sun Feb 28, 2016 4:18 pm

I'll try the "Envelope" - thanks Larry.

Still struggling a bit with assembly but perhaps one day I will approach the gate!

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