nonlinearcircuits

Sly Grogan – Transient Envelope Generator

Build & BOM

SLY GROGAN is an envelope generator based on the design in Electronotes #86. It can produce a wide variety of different envelopes and bursts, perhaps most interesting is the ability to have the envelopes ringing after the attack stage. It also works well as a voltage controlled LFO, tho the module is neither a LFO nor a regular ADSR.

BOM

The codes starting with A-xxxx are part numbers for [Tayda](#). Of course buy them wherever you want, but at least you can check to see what the parts look like if you are not sure. The Tayda jacks are okay (just), but better Kobiconn clones are available from Thonk or Modular Addict.

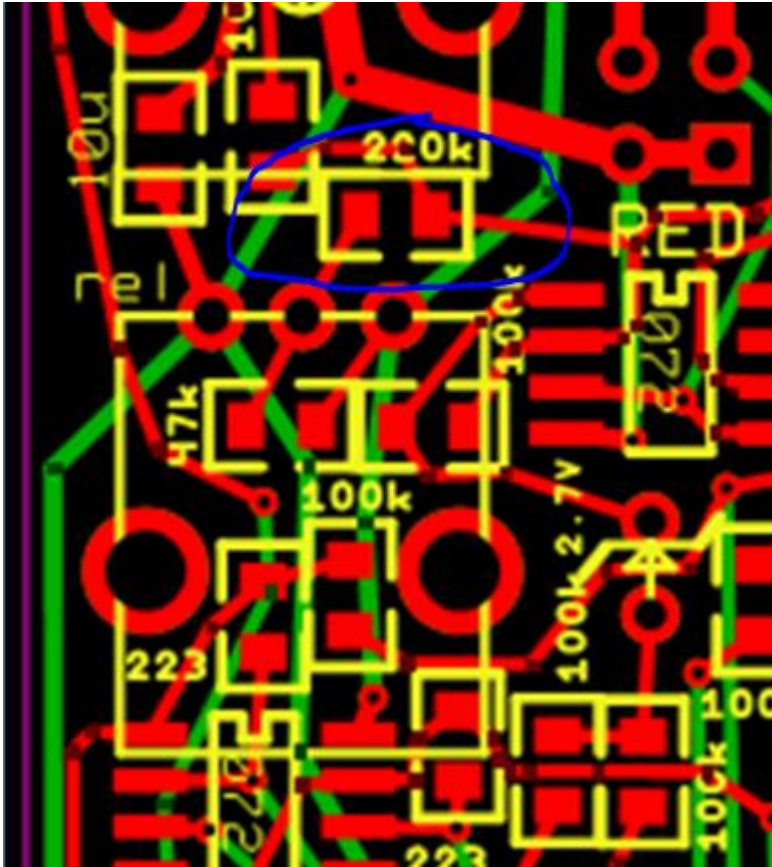| Component	Quantity	Notes	Component	Quantity	Notes
TL074	1	SOIC, A-1137	220Ω	3	0805
TL072	2	SOIC, A-1136	1k	3	0805
LM13700	2	SOIC	10k	4	0805
LL4148	3		22k	1	0805
S1JL or similar rectifier diode	2	2 pin sub SMA: SOD123	33k	2	0805
2.7V – 3V zener	1	thru-hole	47k	4	0805
10 pin header	1	A-198	51k	1	0805
100k pots	5	A-1848	100k	15	0805
jacks	8	A-865	120k	1	0805 *see mod
3mm LED	1	3mm	150k	1	0805
100k trimpot	1	A-2506	220k	1	0805 *see mod
10uF 25V	2	0805			
22nF	2	0805			
10pF	1	0805			

Setup & Use

The gate input is held high when nothing is inserted into the jack. Wind up the Damp pot to 10 and wait for the circuit to start self-oscillating. Adjust the attack and release pots to alter the frequency.
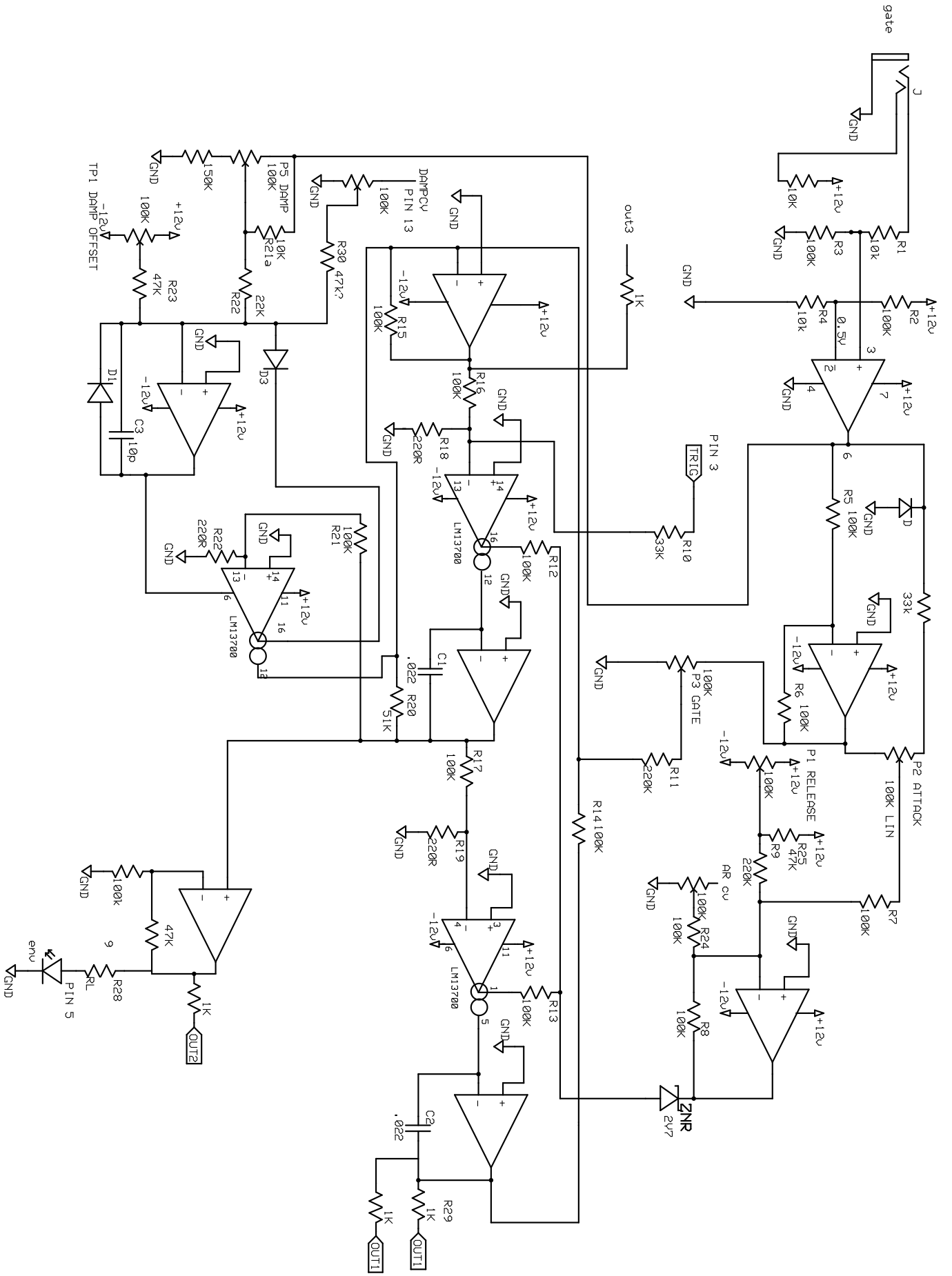
Now, tune the trim-pot so that the output is a slightly clipped sinewave. If you do not have an oscilloscope, listen to the output (have it running at audio rates), adjust the trim-pot so you can hear a clean sinewave (as in, it will sound boring and annoying). Then tweak the trim-pot until you can hear the timbre change just a little bit as it starts to clip. Done.

For envelopes, patch in a gate signal, adjust the damp, attack and release pots to suit. The gate pot determines the max amplitude of the envelope, so keep it turned up high for starters.

If the damp pot is turned too high you will get bursts rather than envelopes, which can be nice. At just the right settings you can get sweet ringing envelopes with little trills at the top. Patch in some CV signals and get some great varying envelopes out of it.

MOD — for longer release (fall) times, change the 220k just above the Release pot to 120k. The BOM has been updated to suit this.

Sly Grogan – transient EG