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presents

The Postman Envelope Generator

a super simple quad attack/release generator for
analogue synthesis

ASSEMBLY GUIDE v1.0

Technical Notes

The Postman EG is a very basic quad envelope generator. It generates Attack/Sustain/Release envelopes from 0V to approximately 1V less than the supply voltage by charging/discharging a capacitor (which conveniently has a logarithmic curve associated with it, making it perfect for musical applications).

It is a very simple circuit design, and thus, there are a few things you must consider:

I highly recommend using only ultrabright LEDs for the indicators. The opamp is driving the envelope indicator LEDs directly (reducing component count), thus, can only handle so much current. The TLC274/279 suggested for the two single supply quad opamps has more than enough driving ability to handle 4 superbright LEDs the way it is configured, but if you make the LEDs brighter (as would be necessary with non-superbrights), it may be too much for the opamps to handle.

Part Substitutions

A lot of the parts on The Postman EG are pretty flexible in value. That is, you can swap them out for another value and it should still work fine!

1.) R6, R15, R21, R29 can be anything from about 75ohms to 700ohms or more.

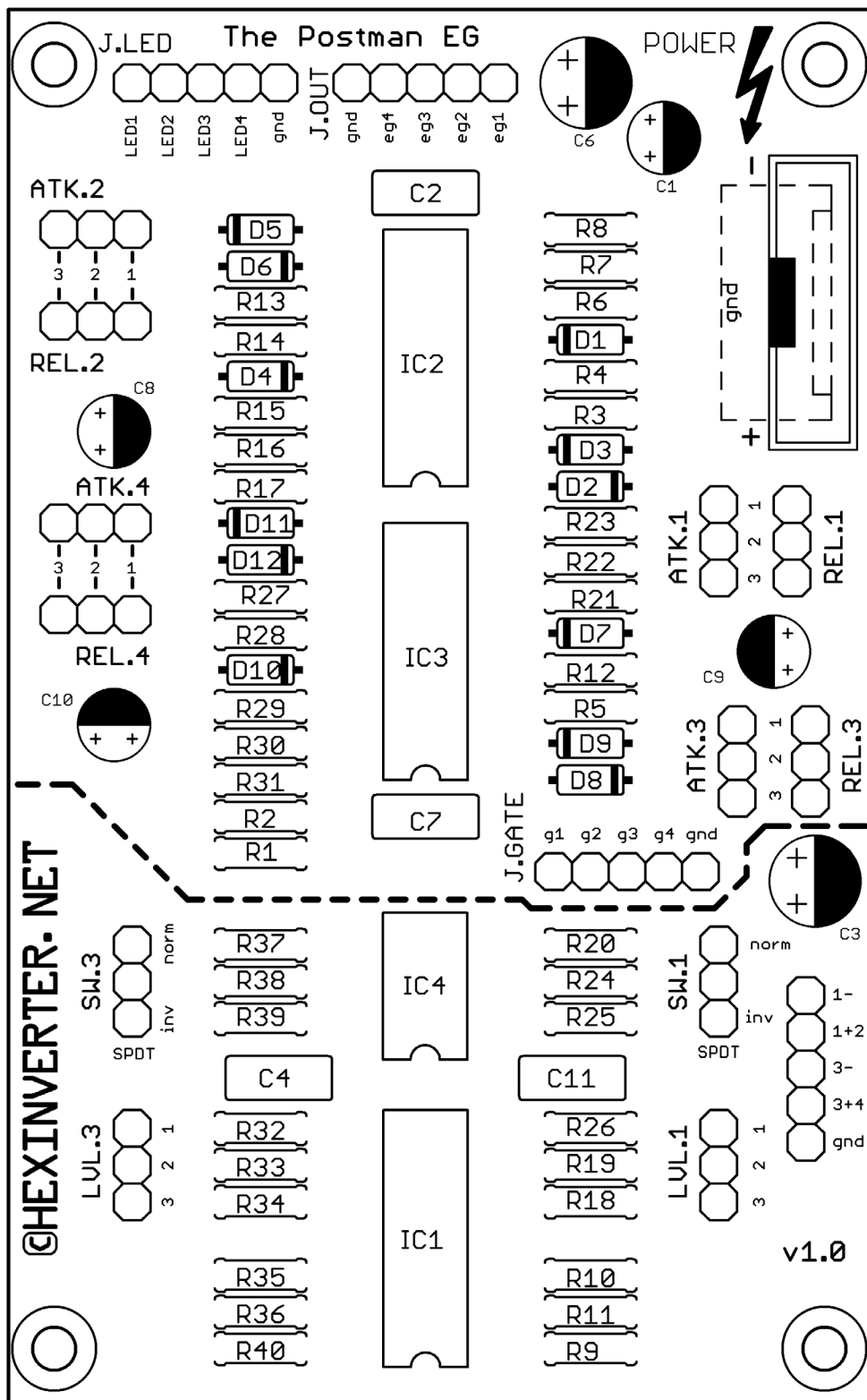
2.) C1, C8, C9, C10 can be anything from about 0.5uF (for really fast envelopes) to as much as 10uF! This capacitor directly affects the charging time for the envelope. Play around with values until you have whatever you like best!

Complex Build Version

There are two different build versions on the circuit board. The simple version is built by installing only the top section of components. The top section is the area with the power connector on it.

All the rest of the PCB can be ignored if you do not want the added features. The complex version can be built by installing the entire board's components. The features of each build are listed on the [PROJECT SITE \(click\)](#)

Component Name Overlay

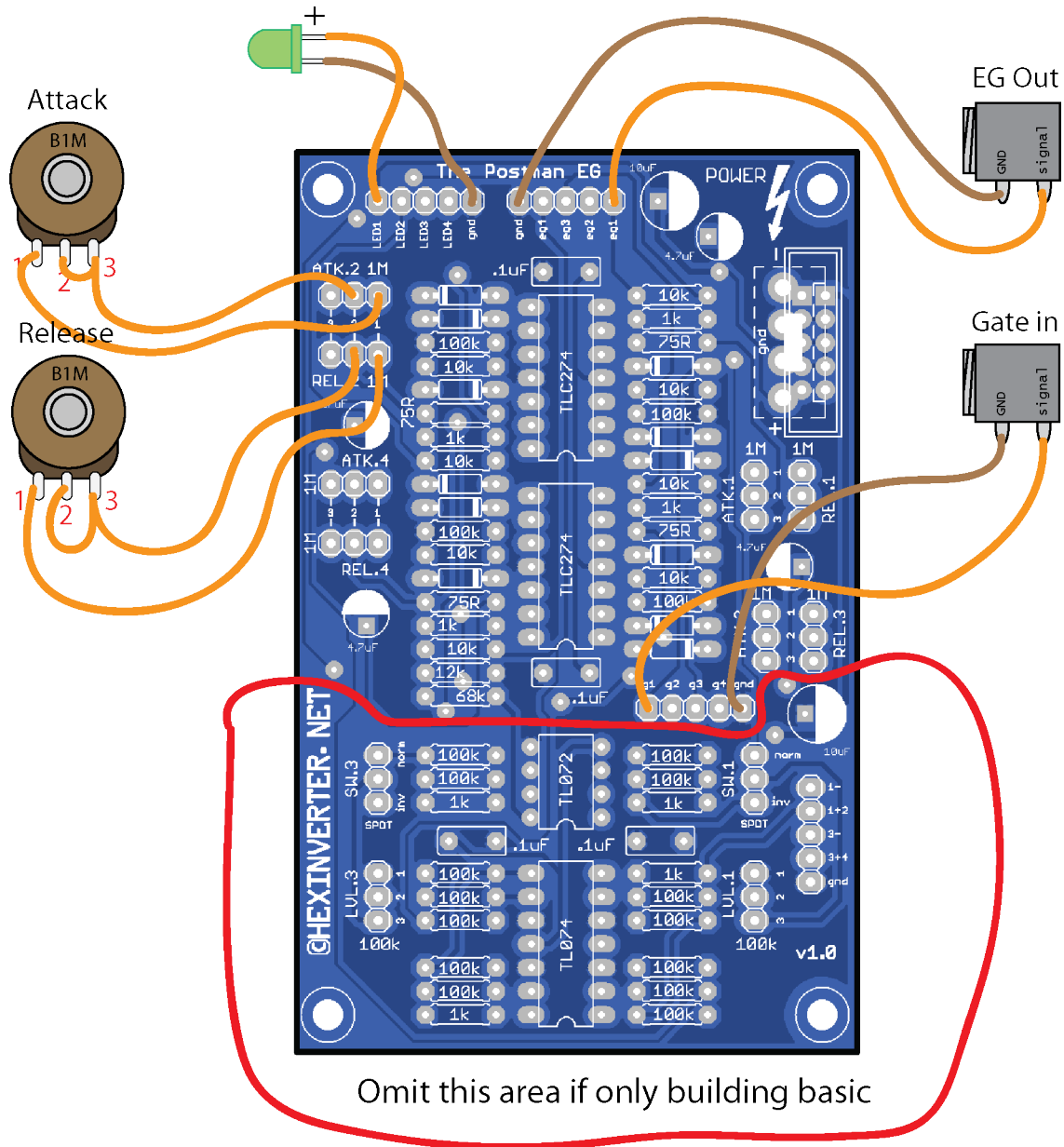


Wiring Guide

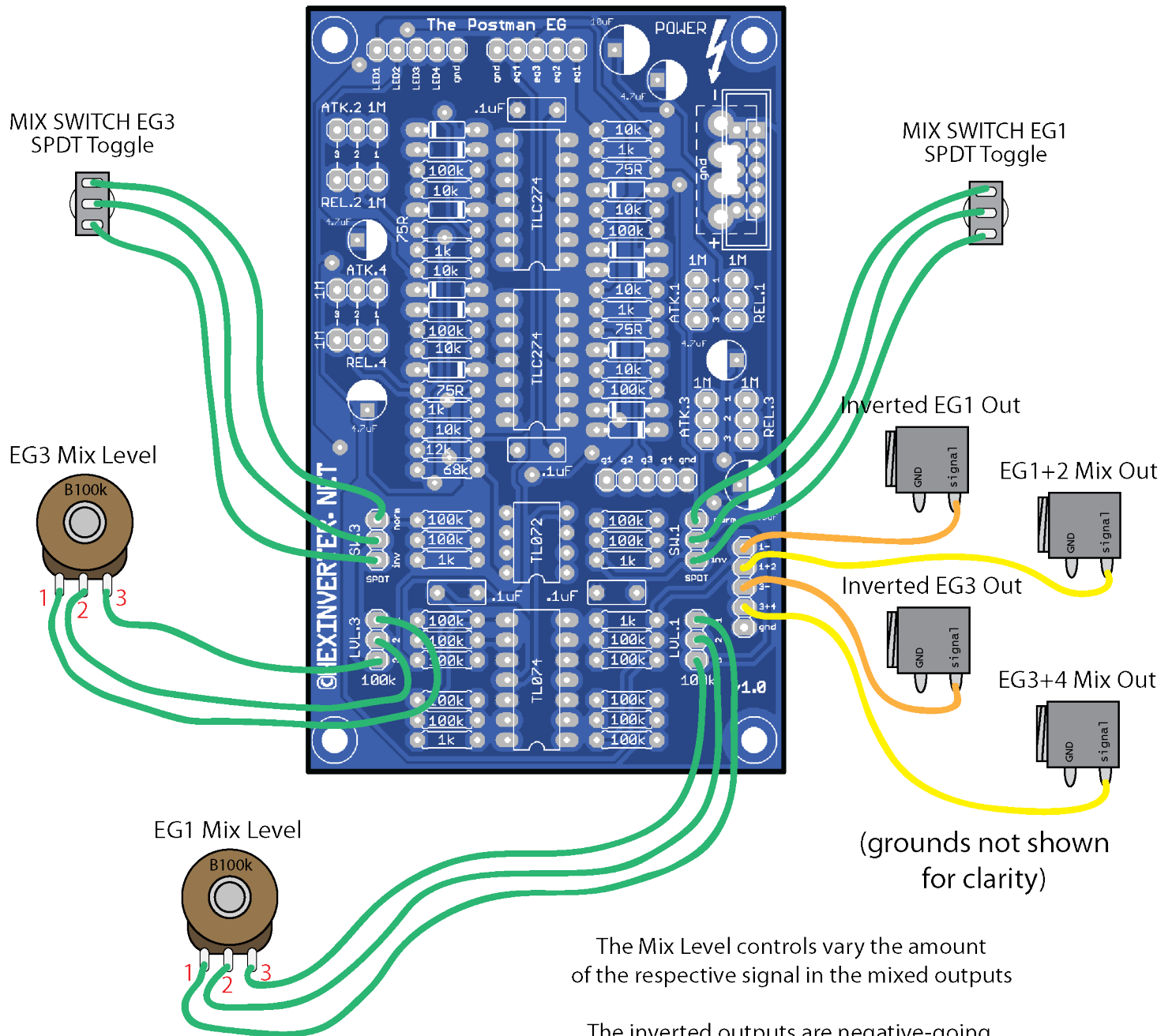
Basic Version

(potentiometers viewed from front)

REPEAT FOR ALL 4 EGs



YOU MUST ALSO WIRE THE BASIC VERSION AS ABOVE



The Mix Level controls vary the amount of the respective signal in the mixed outputs

The inverted outputs are negative-going versions of the basic EGs

The mix switches select whether the positive or negative signals are mixed into the mixed outputs