

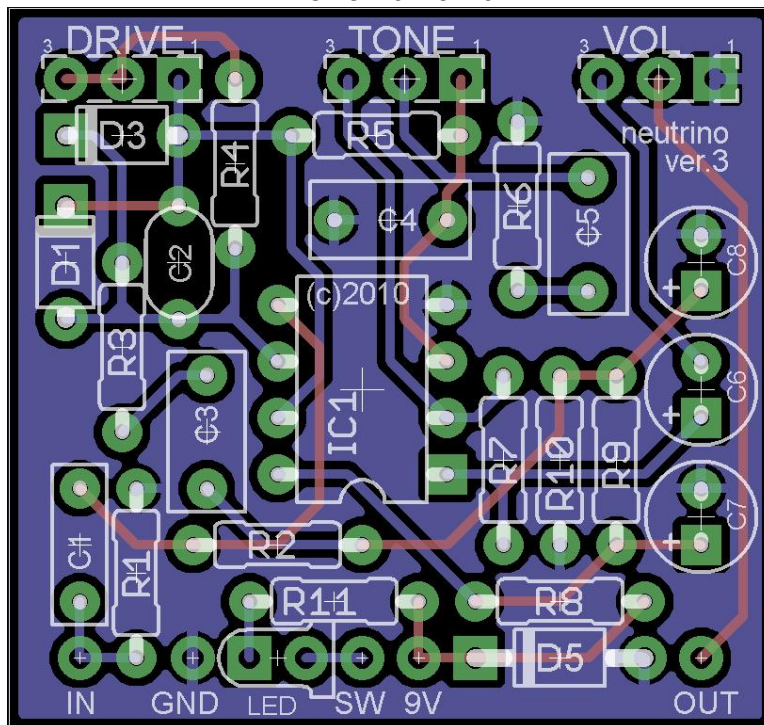
MADBEANPEDALS PRESENTS

# NEUTRINO

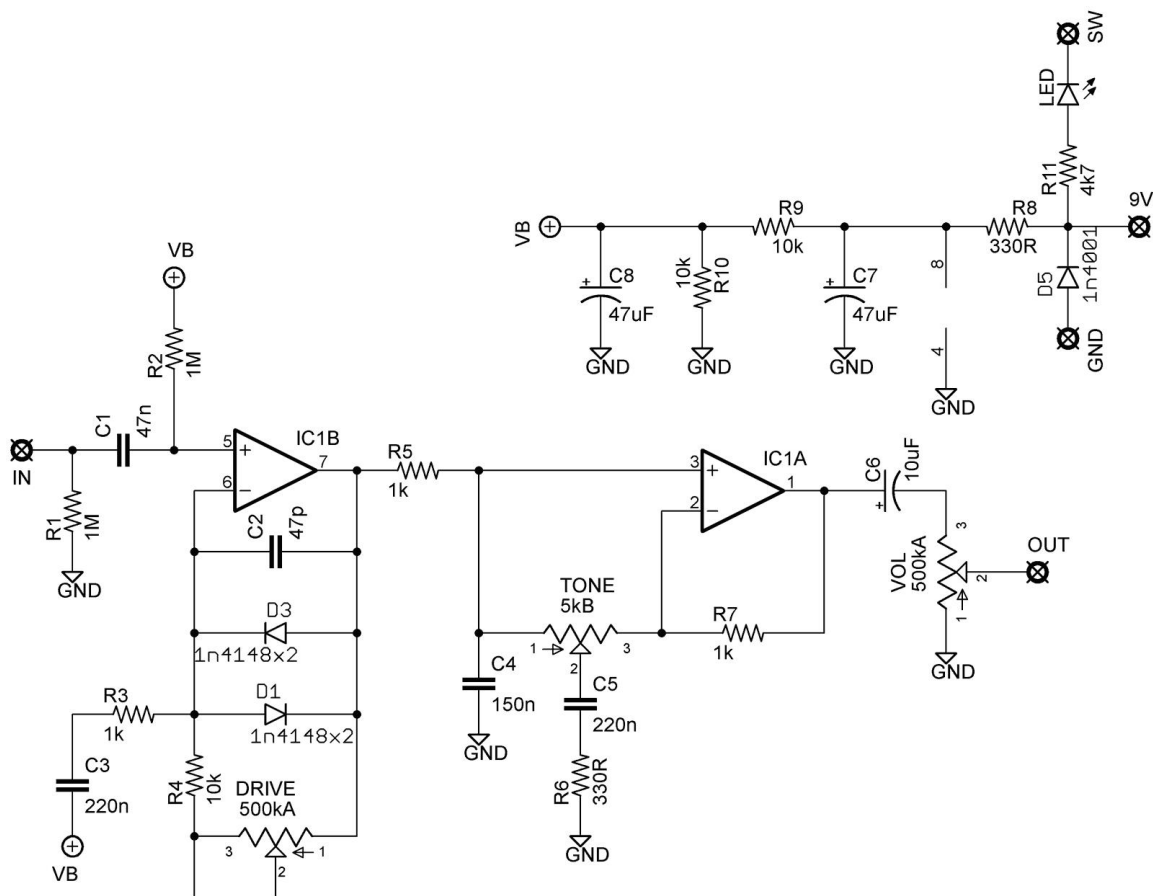
(based on the Lovepedal Eternity)

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Ver.3 10.15.10



| "Burst" version |      |      |       |         |         |
|-----------------|------|------|-------|---------|---------|
| Resistors       |      | Caps |       | Diodes  |         |
| R1              | 1M   |      | 47n   | D1 - D4 | 1n4148  |
| R2              | 1M   |      | 47p   | D5      | 1n4001  |
| R3              | 1k   |      | 220n  |         |         |
| R4              | 10k  |      | 150n  | IC      |         |
| R5              | 1k   |      | 220n  | IC1     | LM1458  |
| R6              | 330R |      | 10uF  | Pots    |         |
| R7              | 1k   |      | 47uF  | DRIVE   | 500kA   |
| R8              | 330R |      | 47uF  | TONE    | 5kB     |
| R9              | 10k  |      |       | VOL     | 500kA   |
| R10             | 10k  |      |       |         |         |
| R11             | 4k7  |      |       |         |         |
| "Black" version |      |      |       |         |         |
| Resistors       |      | Caps |       | Diodes  |         |
| R1              | 1M   | C1   | 56n   | D1 - D3 | 1n4148  |
| R2              | 1M   | C2   | omit  | D4      | omitted |
| R3              | 1k   | C3   | 220n  | D5      | 1n4001  |
| R4              | 10k  | C4   | 150n  | IC      |         |
| R5              | 1k   | C5   | 150n  | IC1     | LM1458  |
| R6              | 470R | C6   | 22 uF | Pots    |         |
| R7              | 1k   | C7   | 47 uF | DRIVE   | 100kA   |
| R8              | 390R | C8   | 47 uF | TONE    | 5kB     |
| R9              | 10k  |      |       | VOL     | 100kA   |
| R10             | 10k  |      |       |         |         |
| R11             | 2k2  |      |       |         |         |



### Notes

- There are a number of ICs that will work for this effect. The stock unit is believed to be an LM1458. But, any of the other standard subs will work as well. These include the NE5532, LF353, OPA2134a and JRC4558.
- **D1** is TWO 1n4148's in series, as is **D3**. This was done to eliminate having to use a jumper if you want asymmetrical clipping. Feel free to experiment with different diodes, or use a switch to set up external clipping options.

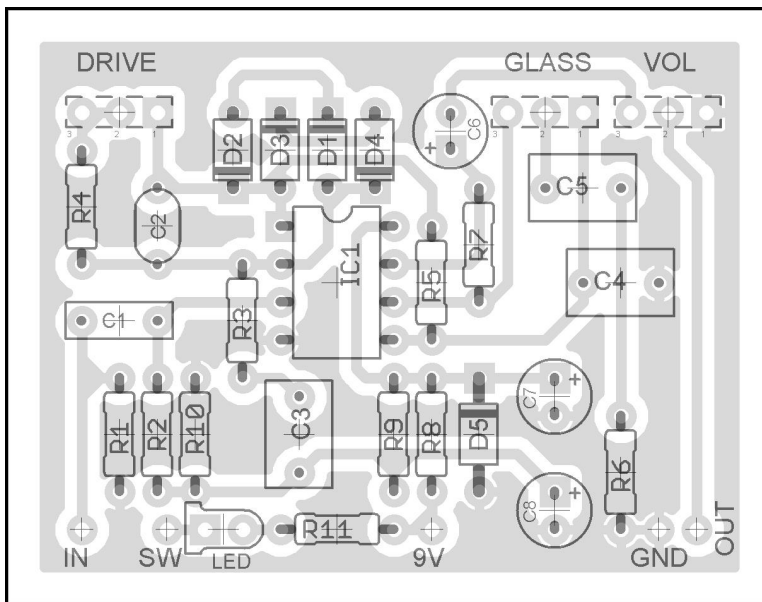
***Black Ed. Values kindly provided by Rich Stevens***

### Parts

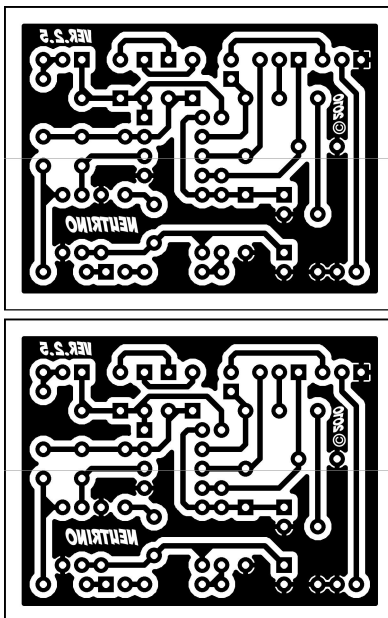
- Xicon General or Hi-Temp radial electrolytic caps, 25v
- Xicon carbon or metal film resistors, 1/4W
- Panasonic ECQ-V or WIMA box caps, 25v or above
- Alpha 16mm potentiometers

## ***SINGLE SIDED VERSION – FOR ETCHING***

The single sided version is slightly different than the double sided. This version has the input going into the non-inverting pin of the first stage of the op-amp, whereas the double-sided version the input connects to the non-inverting pin of the second half of the op-amp. This change was made for two reasons: it made the layout a little smaller, and it is truer to the original Eternity. Functionally, there is no difference in which half of a dual op-amp you use first. But, it don't hurt ☺



**2.03" x 1.58" (w / borders)**



Visit <http://www.madbeanpedals.com/learn/index.html> for helpful wiring diagrams and drilling templates!

*This product is intended for DIY use. Commercial use is prohibited.*