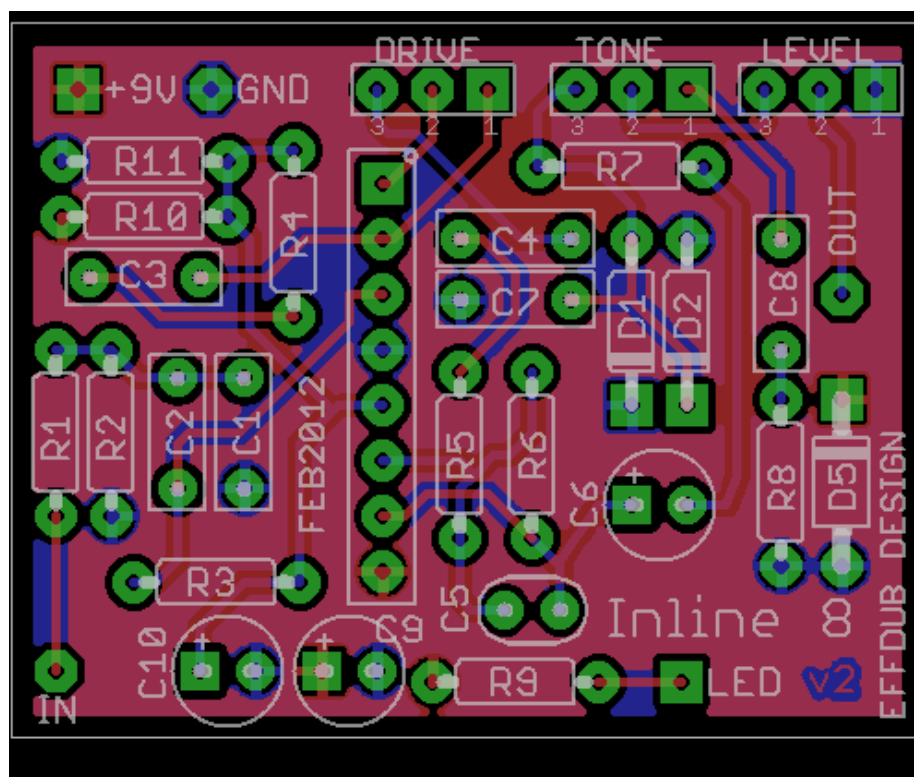


Inline 8

Circuit hacked together and PCB layout by:
EffDub Design - 2012 - www.forrestwhitesides.com

The Inline 8 is, in a nutshell, a stripped-down reworking of the old classic Marshall Guv'nor* distortion pedal that was a hot item in the 1980s. The main difference is that instead of the three-band tonestack in the Guv'nor*, the Inline 8 has been reduced to a very simplistic single tone control that is used to tame the excessive highs that are present in many high-gain circuits. The overall gain stages retain the same basic topology, but some values were changed to accommodate the wildly different tone control. The stock clipping diodes (1N914) are also different from the Guv'nor* (LEDs), giving a more "hair metal" sound. Perhaps the most visually striking difference is the use of an SIP (single inline package) op amp, as opposed to the now more common DIP (dual inline package) op amp. The decision to go with SIP over DIP was purely cosmetic, but it does lend itself to a cool car-related name ("Inline 8"). This circuit bears some resemblance to a few current-production pedals, but it is not a *direct* clone of any given product. And all of them, most especially this one, owe a tip 'o the hat to Marshall.

* Brand and product names are used for reference only. No affiliation of any kind regarding this project with any commercial brand, product, or company is either expressed or implied.



R1	1K
R2	1M
R3	1M
R4	1K
R5	10K
R6	820K
R7	10K
R8	1K
R9	4K7
R10	22K
R11	22K

C1	3.3nF
C2	47nF
C3	220nF
C4	47nF
C5	220pF
C6	10μF
C7	10nF
C8	100nF
C9	47μF
C10	47μF

D1	1N914
D2	1N914
D5	1N4001
IC1	NJM4558L (SIP)
V1 - Drive	A100K
V2 - Tone	B5K
V3 - Level	A100K

Notes

- There is no D3 or D4. This is a mistake on the silkscreen. My bad.
- Pad "LED" connects to the positive lead of the bypass status LED in the pedal.
- R9 is a current-limiting resistor. You may omit it if you plan to wire the LED completely off-board.

Tweaks and Modifications

Tone Control: You can adjust the frequency roll-off by changing the values of C8/R8. It's dialed in for a broad range of gear as is, but you may find that small changes will suit your setup better. It may be a good idea to socket C8 and try several values.

C1 shaves off highs before the signal is amplified by the circuit. Higher values = more cut, up to a point where you start to cut mids as well and it gets "woofy".

C4 is also a major tone-shaping point. If you find the stock setup to be a bit thin, try increasing C4 to 100nF. The stock cap on the Guv'nor was 220nF.

Diode Switch: A nice easy mod is to use a toggle switch (DPDT) to swap between different types of clipping diodes (D1/D2 on the layout/schematic). Any diode will work, just be sure to observe the proper orientation. Generally, the lower the forward voltage, the more fuzz/clipping there will be, but there is also less overall output. Instead of a toggle switch, you could use a rotary switch for many different diode options.

Gain Mods: You may want more or less gain (dirt) from this circuit. There are a few key components that set the gain. In the first stage (IC1a), try adjusting the value of C3. In the second stage (IC1b), adjust R6. You could even replace R6 with a 1M pot to add a second-stage gain control.