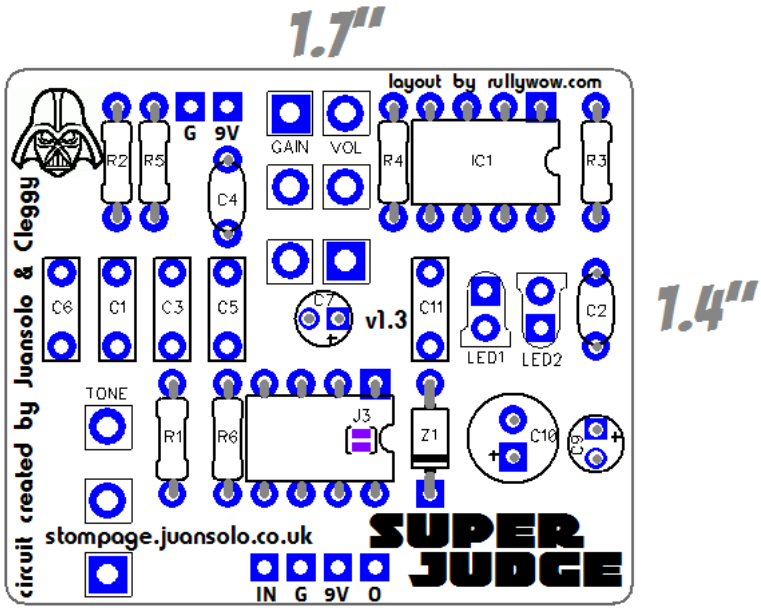
Superjudge PCB v1.3

#Easy#Brutal#Distortion

Revised: March 15, 2020



Description:

Welcome to the Dark Side. The Superjudge is a distortion circuit created by Juansolo and Cleggy (famous from the www.madbeanpedals.com forum) and is a very easy-to-build distortion. The basis of the Superjudge starts with an 18v charge pump on board which boosts the voltage from 9v to 18v. Add two inverting opamp stages, combined with a LED clipping stage, and wrap it up with a tone control. This distortion can cop mildly crunchy tones to that of serious EL34 territory. It delivers crunch in spades!

Oh please check out Juan & Cleggy's awesome webpage here!

http://stompage.juansolo.co.uk/

Feature Set:

- **Built-in Charge pump for 18v operation**
- **Pads line up with rullywow.com 3PDT boards**
- **Easy jumper for use with many different charge pumps**
- **Very easy to build!**

Bill of Materials:

Caps		
C1	100n	film
C2	47p	ceramic
C3	100n	film
C4	470pF	ceramic
C5	220n	film
C6	3n3	film
C7	10uF	electro
C9	10uF	electro
C10	100uF	electro
C11	100n	film

Resistors	
R1	2M2
R2	10k
R3	33k
R4	1k
R5	47k
R6	10k

Pots	
TONE	50kB
VOL	500kB
GAIN	1MB

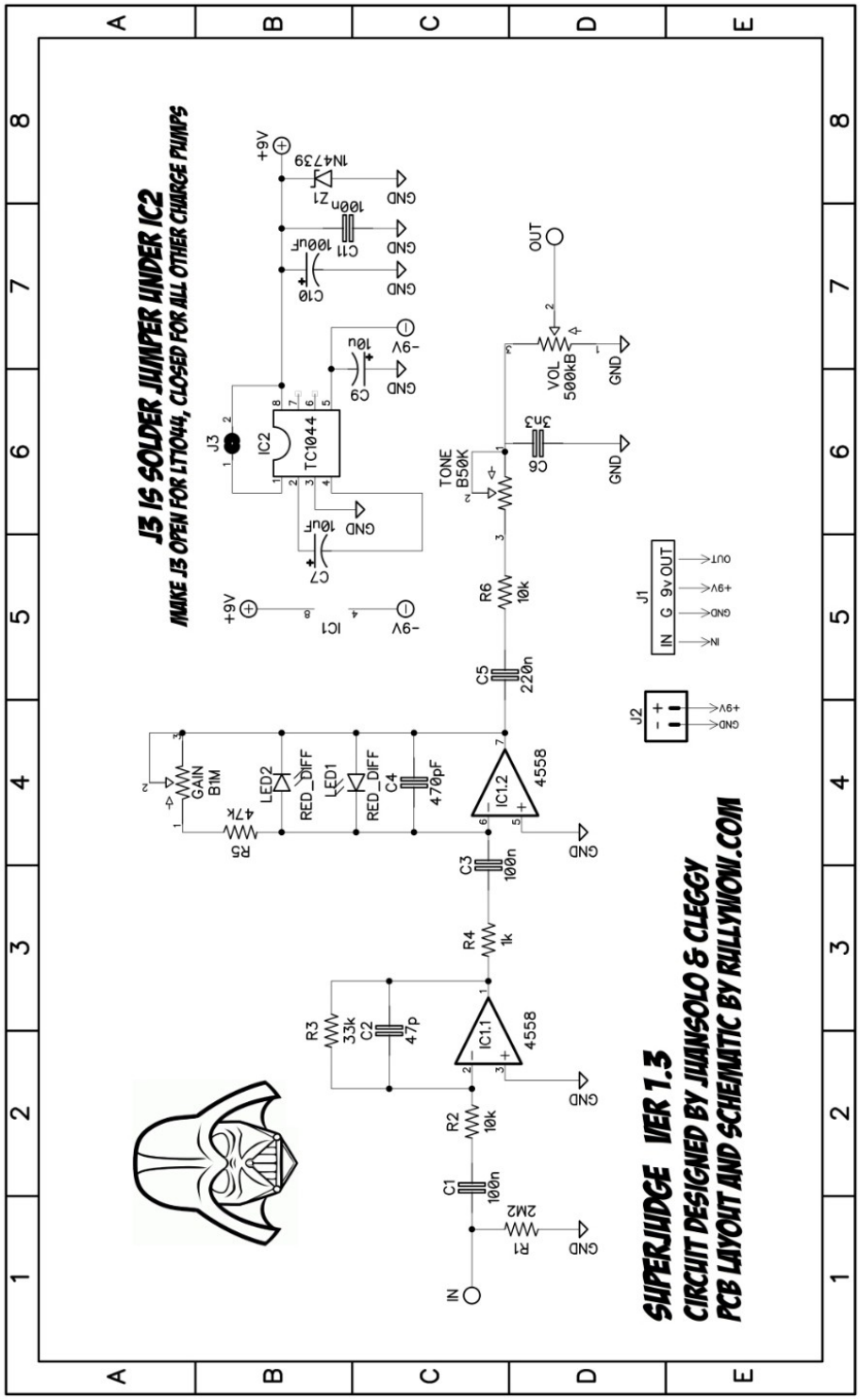
IC	
IC 1	4558
IC 2	TC1044*

Diodes	
LED1	3MM RED
LED2	3MM RED
Z1	1N4739

Build Tips:

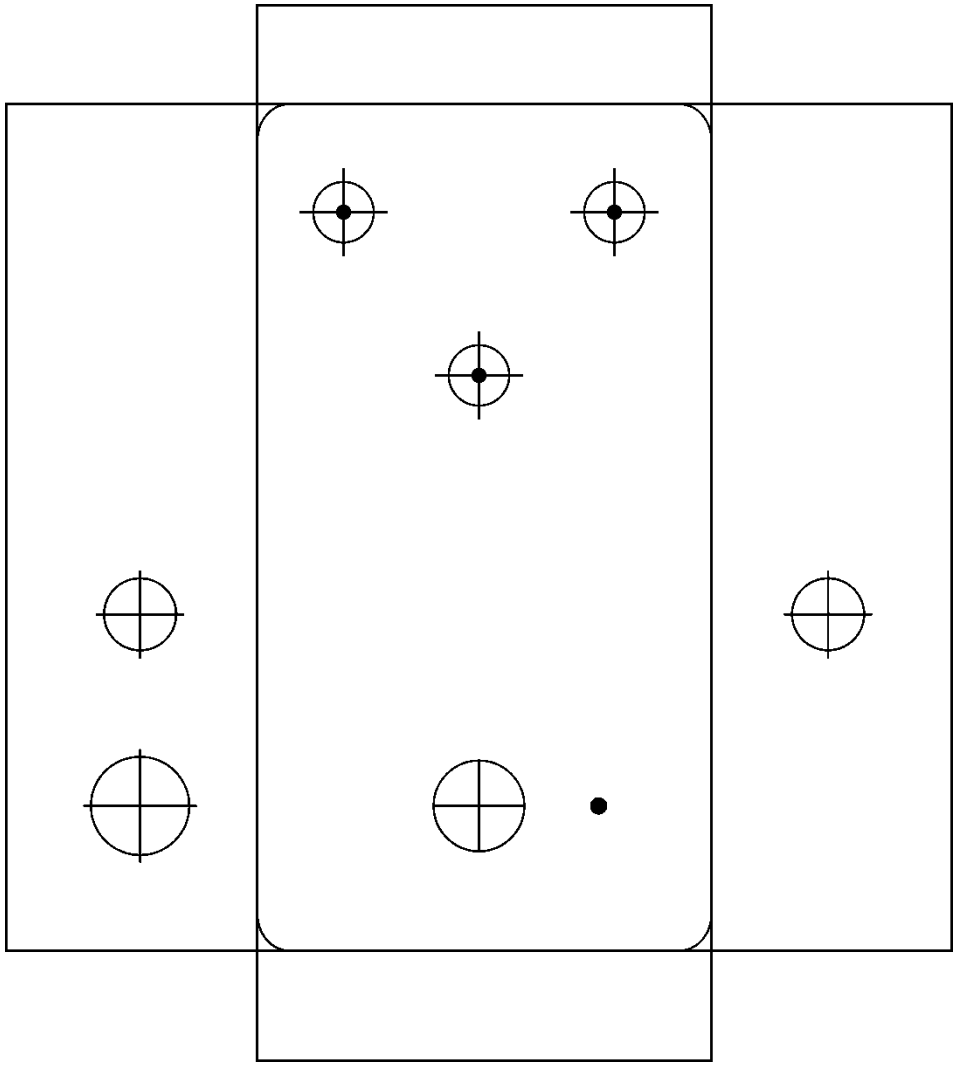
- For the easiest build experience, try using Rullywow 3PDT breakout boards available here. They make wiring the stomp switch a breeze!
- You can use other charge pump ICs besides the TC1044. Common CPs are: ICL7660, MAX1044, TC1044, and LT1054.
- Don't forget the solder jumper (J3) under the IC2, which is the charge pump. You will want to put a drop of solder across this before soldering in your chip or socket if your charge pump requires connecting pins 1 and 8. Most require connecting these pins **except the LT1054. If you fail to connect the jumper and your CP requires it…you will most likely hear an audible 'whine' from the circuit.**
- It is a good idea to solder components from shortest height to tallest. In this case, you should start with resistors, diodes, film caps, electrolytic caps, and IC/sockets.
- Before putting your creation into its enclosure, you should always test it! If it doesn't work outside the enclosure, it won't work inside (I promise!)

- The LEDs (used for clipping) are suggested to be 3mm red diffused. You may want to socket these and try different types of diodes. You could use anything from green leds, to 1n4148, etc. Red seems to have the most “EL34 type” crunch.
- **Make sure you use capacitors rated at least 25v.** Since the circuit increases the 9v to 18v, you want to be sure all your components can handle it.


J3 IS SOLDER JUMPER UNDER IC2
MAKE J3 OPEN FOR LT1044, CLOSED FOR ALL OTHER CHARGE PUMPS
SUPERJUDGE VER 1.3
CIRCUIT DESIGNED BY JUANSOLO & CLEGGY
PCB LAYOUT AND SCHEMATIC BY RULLYNOW.COM
IN
OUT
+9V
-9V
GND
R1 2M2
R2 10k
R3 33k
R4 1k
R5 47k
R6 10k
VOL 500kB
TONE B50K
GAIN B1M
C1 100n
C2 47p
C3 100n
C4 470pF
C5 220n
C6 C7 C8 C9 10u
C10 C11 100uF
C12 100n
Z1 1N4739
IC1.1 4558
IC1.2 4558
IC2 TC1044
LED1 RED_DIFF
LED2 RED_DIFF
J1 IN G 9v OUT
J2

Drill Guide (1590B) :

This is an *APPROXIMATE* drill guide. Enclosures differ in size so be sure to measure before your commit to drill!



Terms of Use:

- PCBs from www.rullywow.com are intended for DIY use and are not allowed for commercial resale. It is OK to build (and sell) a few pedals for your friends, bandmates, yourself (that is what the DIY guitar pedal community is all about!). Special thanks to Juan and Cleggy for letting this become a PCB available to the DIY community!