

green bean

FX TYPE: OVERDRIVE

m2011 madbeanpedals · Release date: 09.26.11

The **Green Bean** is not quite **Yet Another Tube Screamer**, although you can certainly build a vintage unit, if you like. Several mods have been included to expand the functionality and tonal possibilities of this venerated classic.

Controls

GAIN: Sets the overall distortion.

TONE: An active filter that adds treble content after the **R8/C6** low pass filter.

VOL: Output volume.

FAT: This switch adds **C5** in parallel to **C4** for a thicker tone.

COMP: Allows you to choose between two different types of clipping in the op-amp.

BRIGHT: Removes C6 to reduce the inherent mids emphasis of the circuit.

Notes

Changes to the Green Bean schematic from the original Tube Screamer circuit

Removed flip flop bypass circuitry for true bypass operation

Added **R1** as a pull-down resistor

R3, R13 – 470k changed from 510k

C2, C8 changed from bi-polar to film

C3 – 100pF changed from 51pF

R7 – 47k changed from 51k

C10 – 1uF film changed from 10uF tantalum

Q1, Q2 – 2n5088 changed from 2SC1815

You can use 16mm PCB pin pots and a solder lug SPDT (for the **COMP** switch) mounted directly to the PCB. The **FAT** and **BRIGHT** switch (either SPST or SPDT) must be wired off board.

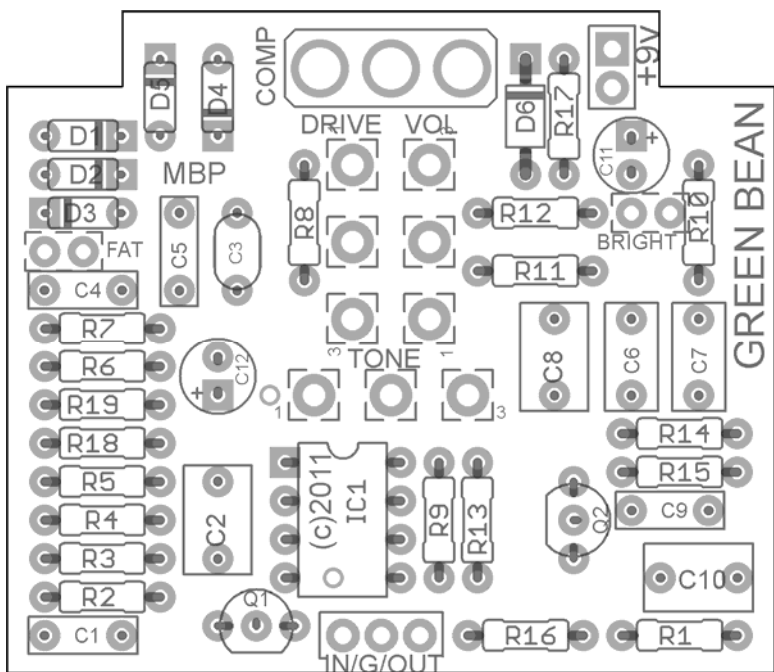
The **BRIGHT** switch will be most useful to players with very dark sounding guitars and/or amps. It is less useful in other set-ups.

You can use an On/On SPDT for the **COMP** mod to go between two different types of clipping. If you use an On/Off/On SPDT, the center position will be no clipping diodes. This provides more of a clean boost sound, and is somewhat harsher sounding.

D1 - D5 are your choice as far as clipping diodes. **D1 - D3** offers asymmetrical clipping and **D4, D5** are symmetrical. Experimentation with mixing different types of diodes is highly encouraged. Some possibilities are 1n34A, 1n270, 1n914 (or 1n4148), 1N4001, BAT41, and 3mm LEDs.

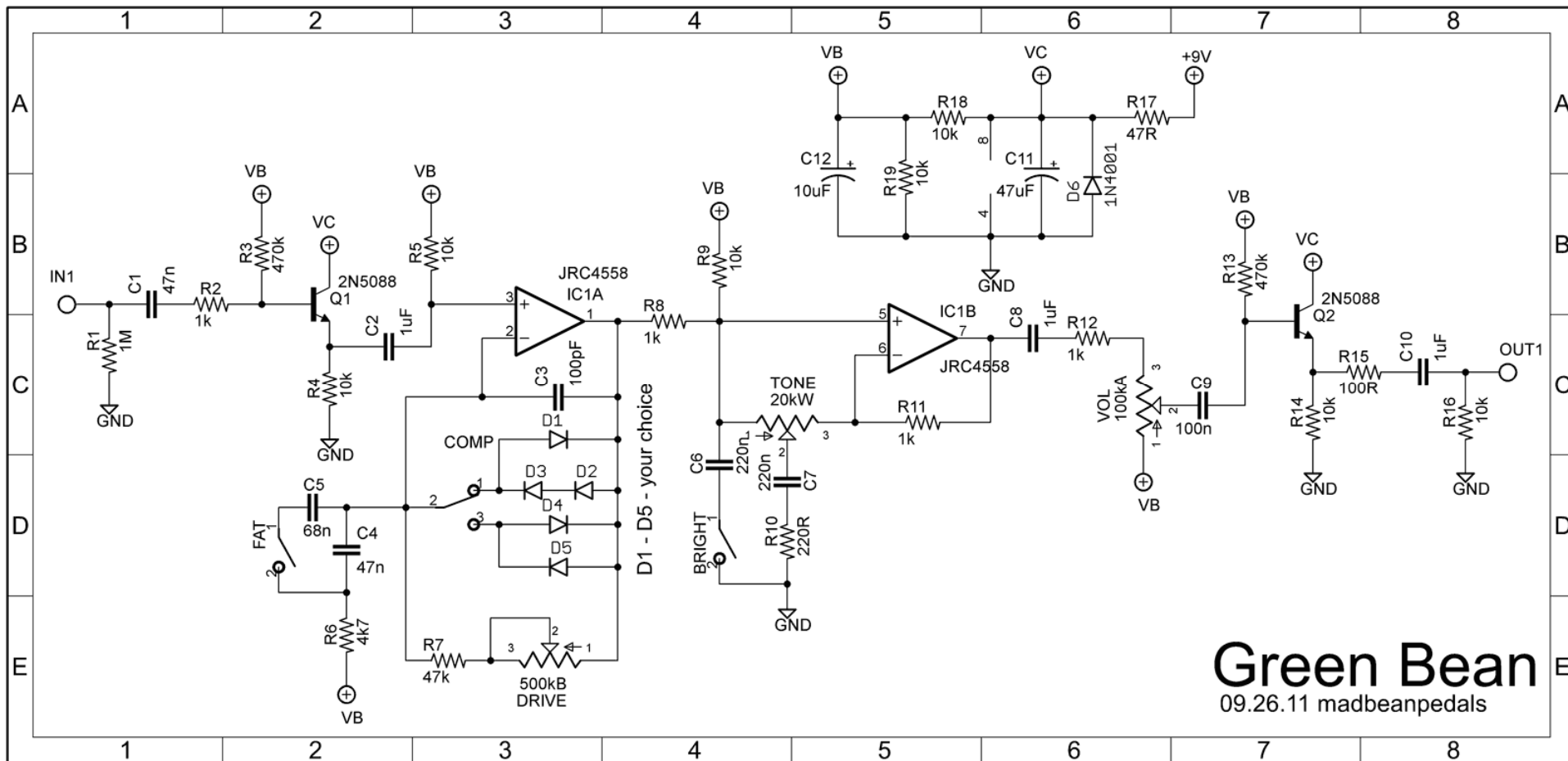
You can also use many different dual op-amp ICs in place of the JRC4558. Some of these include the TL072, TLC2272, JRC4580, NE5532, LF353N, OPA2164A and LM833. Each one may produce very slight differences in tonality.

Layout Diagram



Bill of Materials

Resistors		Caps		Diodes	
R1	1M	C1	47n	D1 - D6	**
R2	1k	C2	1uF	D6	1N4001
R3	470k	C3	100pF	Transistors	
R4	10k	C4	47n	Q1, Q2	2N5088
R5	10k	C5	68n	IC	
R6	4k7	C6	220n	IC1	JRC4558
R7	47k	C7	220n	Switches	
R8	1k	C8	1uF	BRIGHT	SPST
R9	10k	C9	100n	COMP	SPDT (On/On)
R10	220R	C10	1uF	FAT	SPST
R11	1k	C11	47uF	Pots	
R12	1k	C12	10uF	DRIVE	500kB
R13	470k			TONE	20kW
R14	10k			VOL	100kA
R15	100R				
R16	10k				
R17	47R				
R18	10k				
R19	10k				



1590B
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