

CHUNK CHUNK

2015 edition

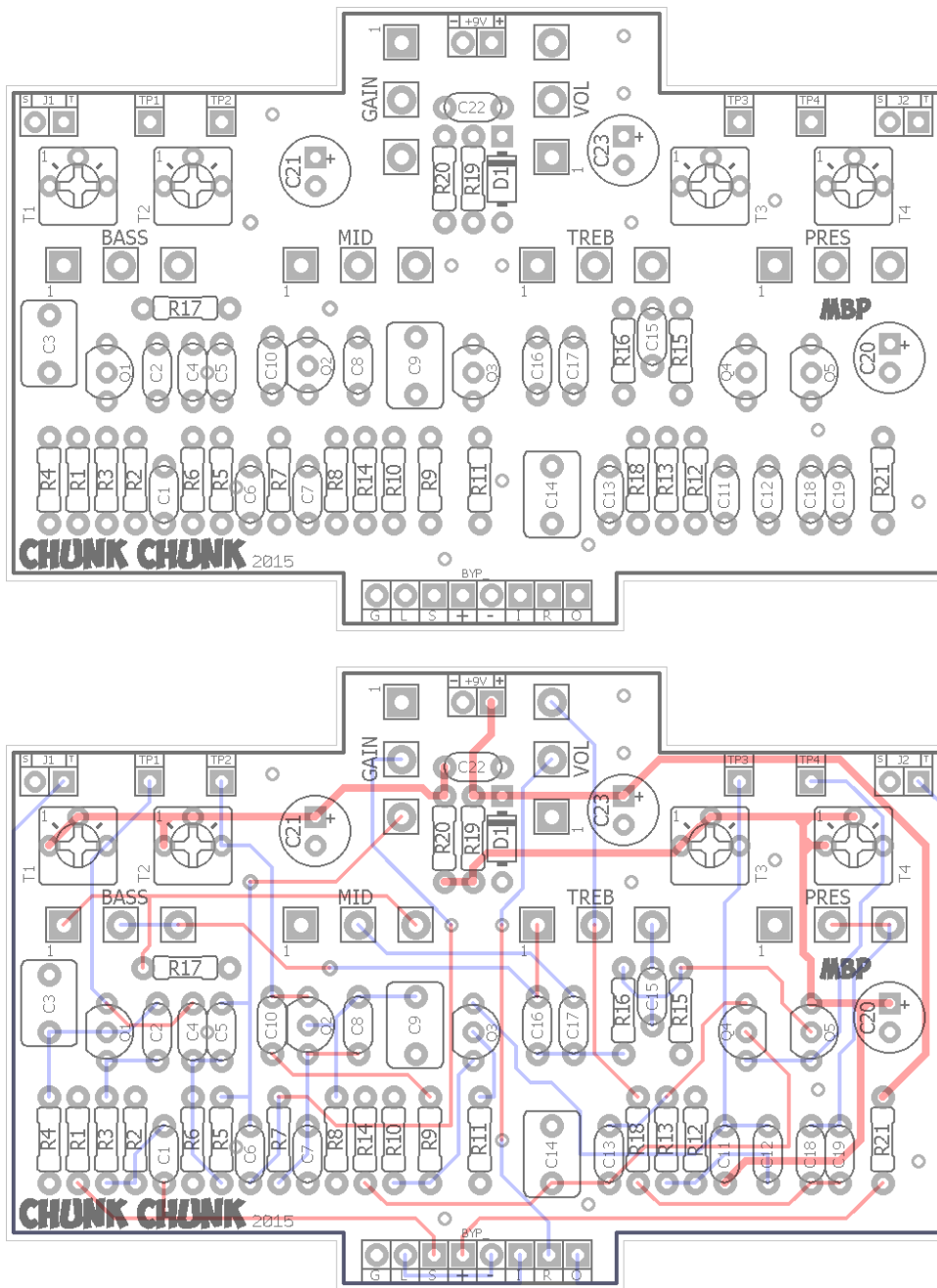
FX TYPE: Distortion

Based on the "Dr. Boogie"

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Previous version: <http://www.madbeanpedals.com/projects/ChunkChunk/docs/ChunkChunk.zip>

3.275" W x 2.175" H



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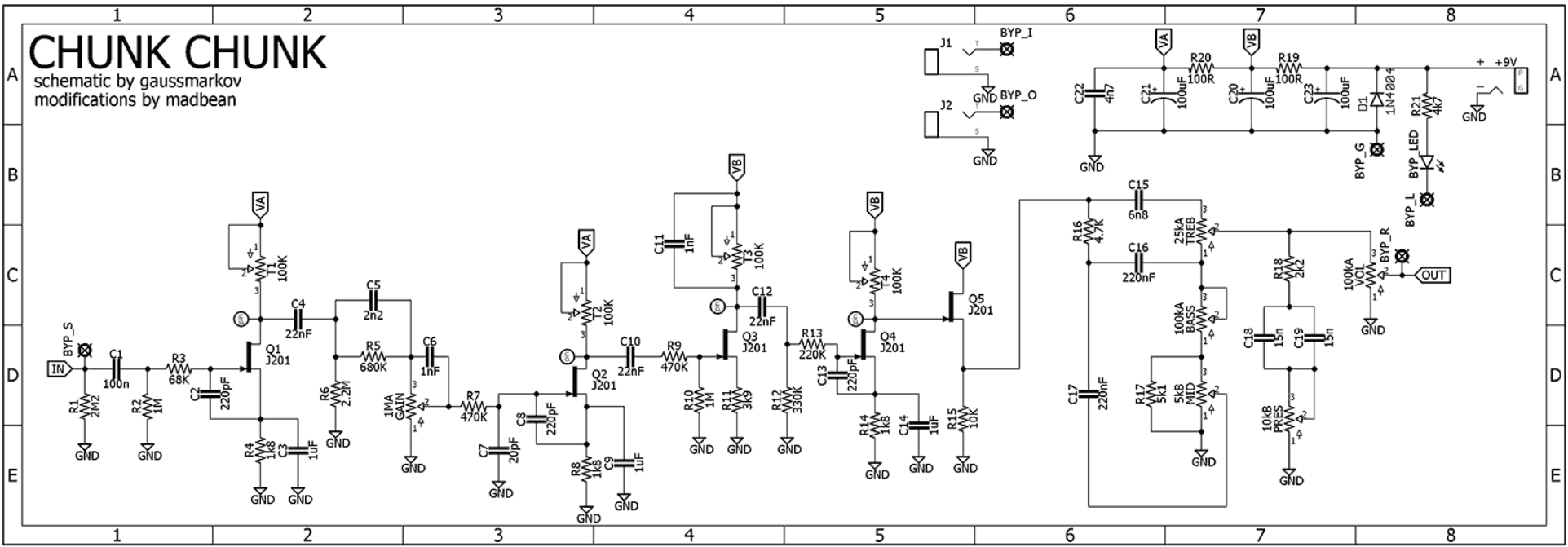
B.O.M.					
Resistors		Caps		Diodes	
R1	2M2	C1	100n	D1	1N4004
R2	1M	C2	220pF	Transistors	
R3	68K	C3	1uF	Q1 - Q5	J201
R4	1k8	C4	22n	Trimmers	
R5	680K	C5	2n2	T1 - T4	100K
R6	2M2	C6	1nF	Pots	
R7	470K	C7	20pF	VOL	100kA
R8	1k8	C8	220pF	GAIN	1MA
R9	470K	C9	1uF	BASS	100kA
R10	1M	C10	22n	MID	5kB
R11	3k9	C11	1n	TREB	25kA
R12	330K	C12	22n	PRES	10kB
R13	220K	C13	220pF		
R14	1k8	C14	1uF		
R15	10K	C15	6n8		
R16	4k7	C16	220n		
R17	5k1	C17	220n		
R18	2k2	C18	15n		
R19	100R	C19	15n		
R20	100R	C20	100uF		
R21	4k7	C21	100uF		
		C22	4n7		
		C23	100uF		

Shopping List

Value	QTY	Type	Rating
100R	2	Metal / Carbon Film	1/4W
1k8	3	Metal / Carbon Film	1/4W
2k2	1	Metal / Carbon Film	1/4W
3k9	1	Metal / Carbon Film	1/4W
4k7	2	Metal / Carbon Film	1/4W
5k1	1	Metal / Carbon Film	1/4W
10K	1	Metal / Carbon Film	1/4W
68K	1	Metal / Carbon Film	1/4W
220K	1	Metal / Carbon Film	1/4W
330K	1	Metal / Carbon Film	1/4W
470K	2	Metal / Carbon Film	1/4W
680K	1	Metal / Carbon Film	1/4W
1M	2	Metal / Carbon Film	1/4W
2M2	2	Metal / Carbon Film	1/4W
20pF	1	Ceramic	16v Min
220pF	3	Ceramic	16v Min
1n	2	Film	16v Min
2n2	1	Film	16v Min
4n7	1	Film	16v Min
6n8	1	Film	16v Min
15n	2	Film	16v Min
22n	3	Film	16v Min
100n	1	Film	16v Min
220n	2	Film	16v Min
1uF	3	Film	16v Min
100uF	3	Electrolytic	16v Min
1N4004	1	or, 1N4001	
J201	5		
100K	4	Bourns 3362P	
5kB	1	PCB Right Angle	16mm
10kB	1	PCB Right Angle	16mm
25kA	1	PCB Right Angle	16mm
100kA	2	PCB Right Angle	16mm
1MA	1	PCB Right Angle	16mm

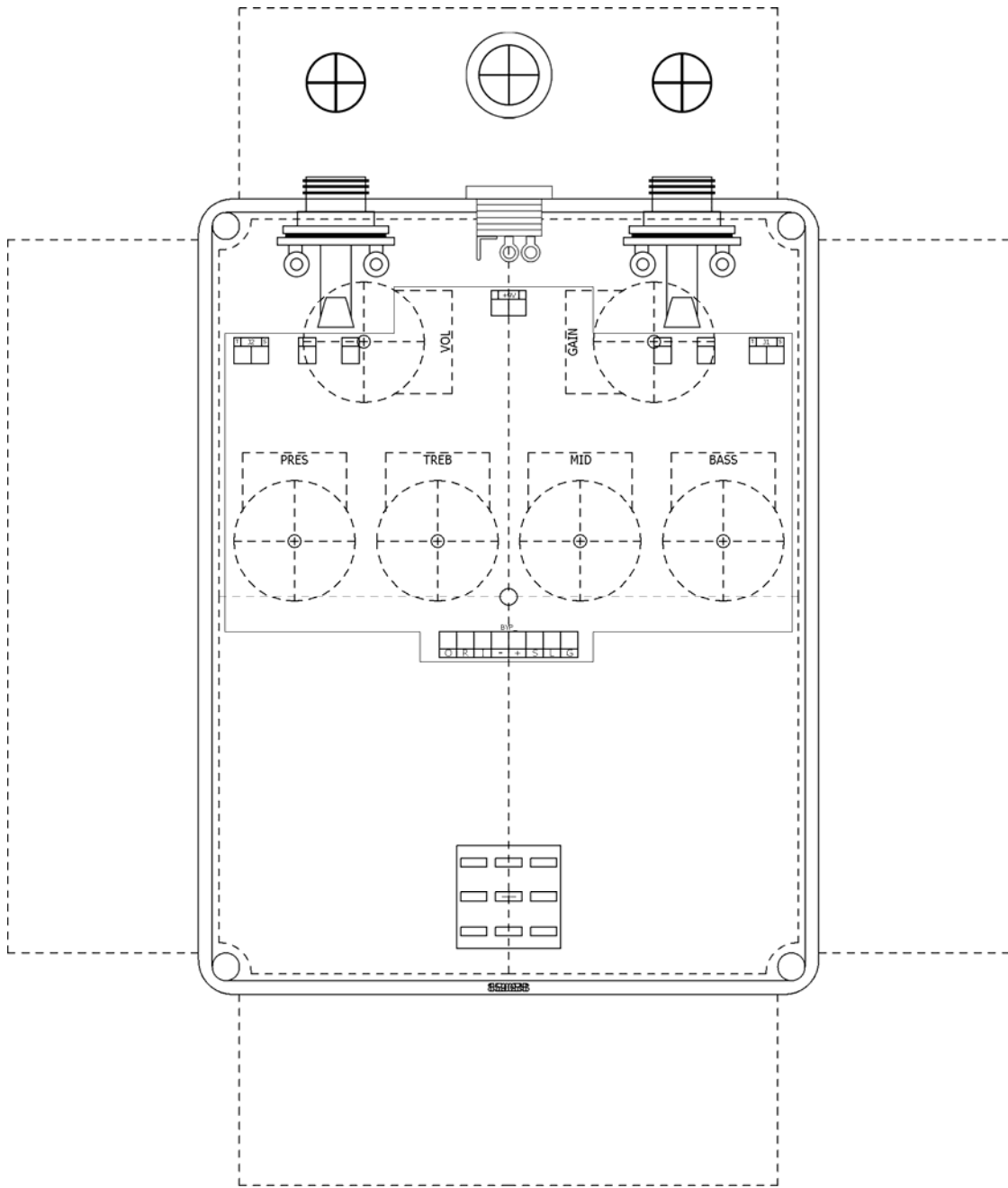
CHUNK CHUNK

schematic by gaussmarkov
modifications by madbean



1590BB Drill Guide

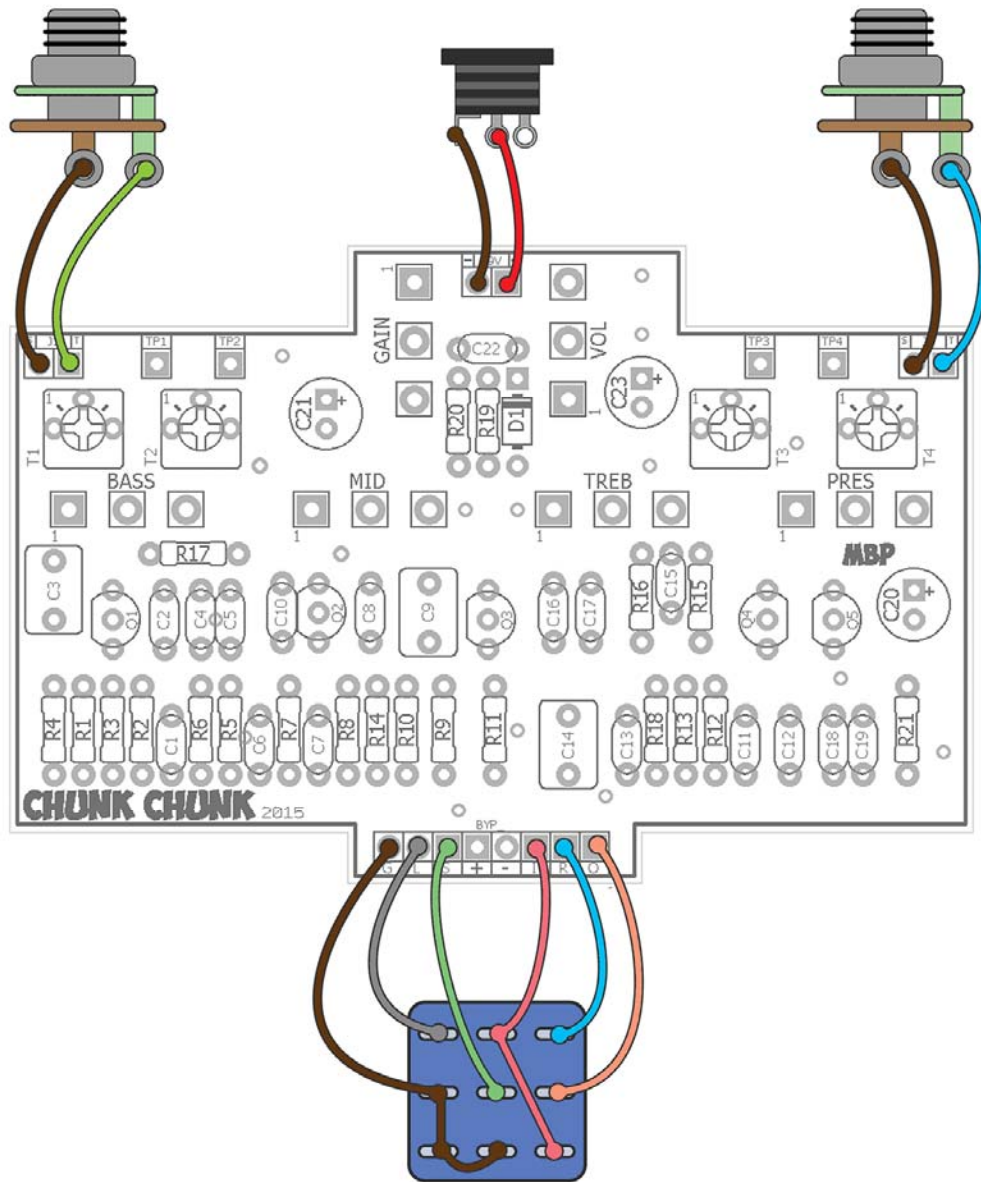
5.79" W x 6.82" H



The indicator LED can be soldered directly to the PCB.

Photoshop File: http://www.madbeanpedals.com/projects/ChunkChunk/docs/ChunkChunk_DRILL.zip

Wiring Guide



The indicator LED can be soldered directly to the enclosure ("+" and "-" pads on the BYP switch area).

The Dr. Boogie has a long history in the DIY community as a sort of “rite of passage” build. If you’ve been building pedals for more than a couple of years, there’s a good chance you will build this, if only because of peer pressure :)

This is a high gain, JFET-based distortion with a TMB tone control and added presence control. It’s an attempt to model a Dual Rectifier type amp, such as the Mesa Boogie™ Mark series. The Chunk Chunk follows straight from the schematic drawing done by Guassmarkov and with only slight modifications. If you are interested in finding out more about this circuit and its history, a good place to start is with a search on DIYStompboxes. There you will find many examples and build reports of the Dr. Boogie in its various forms.

2015 Update: nor layout tweaks to make top mounting jacks easier.

Controls

GAIN: This control changes the overall distortion produced.

BASS, TREBLE MID: These controls are very typical of a TMB control you would find on an amp, with the exception of reduced values on the pots to lower the overall output impedance of the tone section.

PRESENCE: This control reduces some lower mid-range to emphasize upper mid-range frequencies.

VOL: The output level.

Notes

- You will need to bias the J201’s for optimal gain. This version of the ChunkChunk PCB has four test points (labeled TP1-TP4) at the top which correspond to the drains of Q1-Q4. Using your DMM, adjust the trimmer for T1 until you read approximately 4.5v on TP1. Repeat for T2-T4. Q5 is a buffer and requires nothing further.



- You can use shielded wire on the input and/or output to reduce noise.
- C18 and C19 are two 15n caps in parallel to add up to the 30n that is listed in the stock Dr. Boogie.
- The stock Boogie lists 2.5kB for the MID pot. The Chunk Chunk uses a 5kB instead with a 5k1 resistor in parallel to attain an effective value of 2.5k
- If, after biasing Q1-Q4, you encounter oscillation at high gain settings, adjust T1 some more until it is eliminated.
- You can lower the overall distortion produced by substituting 2N5457 for Q1 and Q2, if desired.

Voltages

Q1		9.42v Supply		Q3	
J201		J201		J201	
D	4.47	D	5.08	D	5.08
S	285mV	S	378mV	S	480mV
G	0v	G	-2mV	G	0.5mV

Q4		Q5	
J201		J201	
D	5	D	9.29
S	450mV	S	5.95
G	0v	G	4.98