

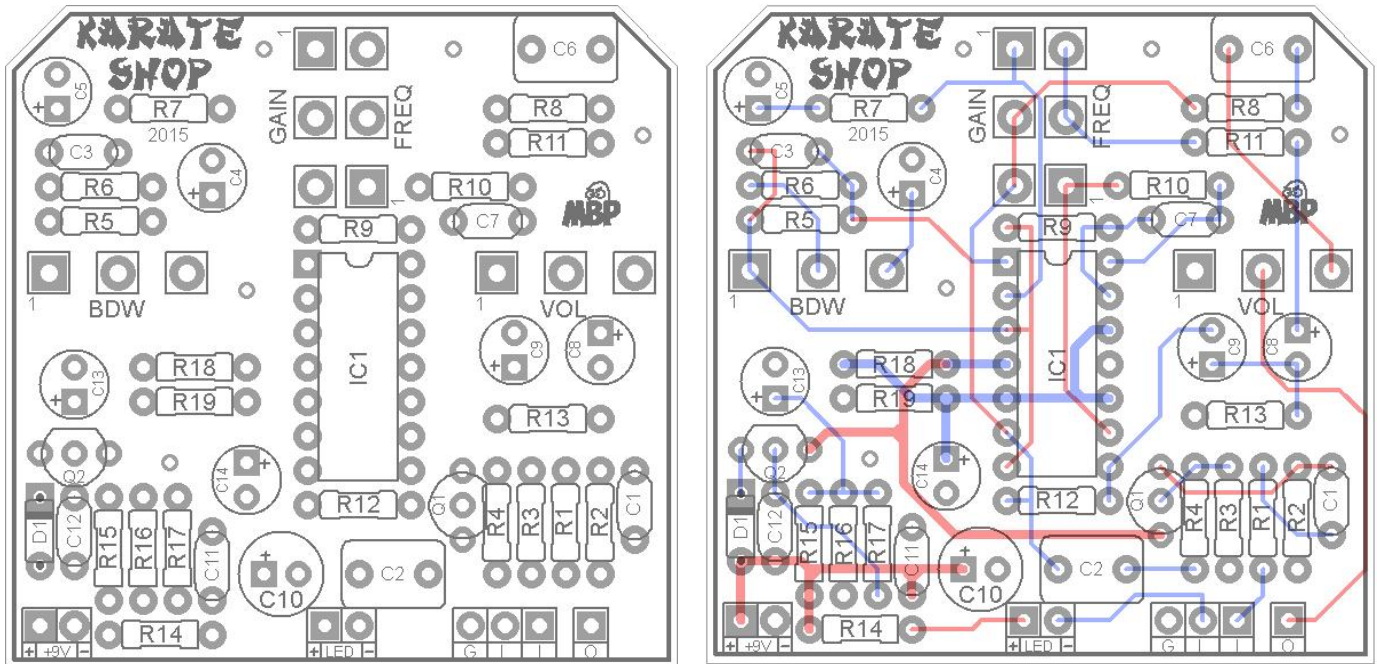
# KARATE SHOP

FX TYPE: FILTER

Based on the Systech® Harmonic Energizer™

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1.95" W x 1.925" H



## 2015 Change-log

- Added 50kA Vol pot.
- Swapped Q1 from 2N5457 to MPF102

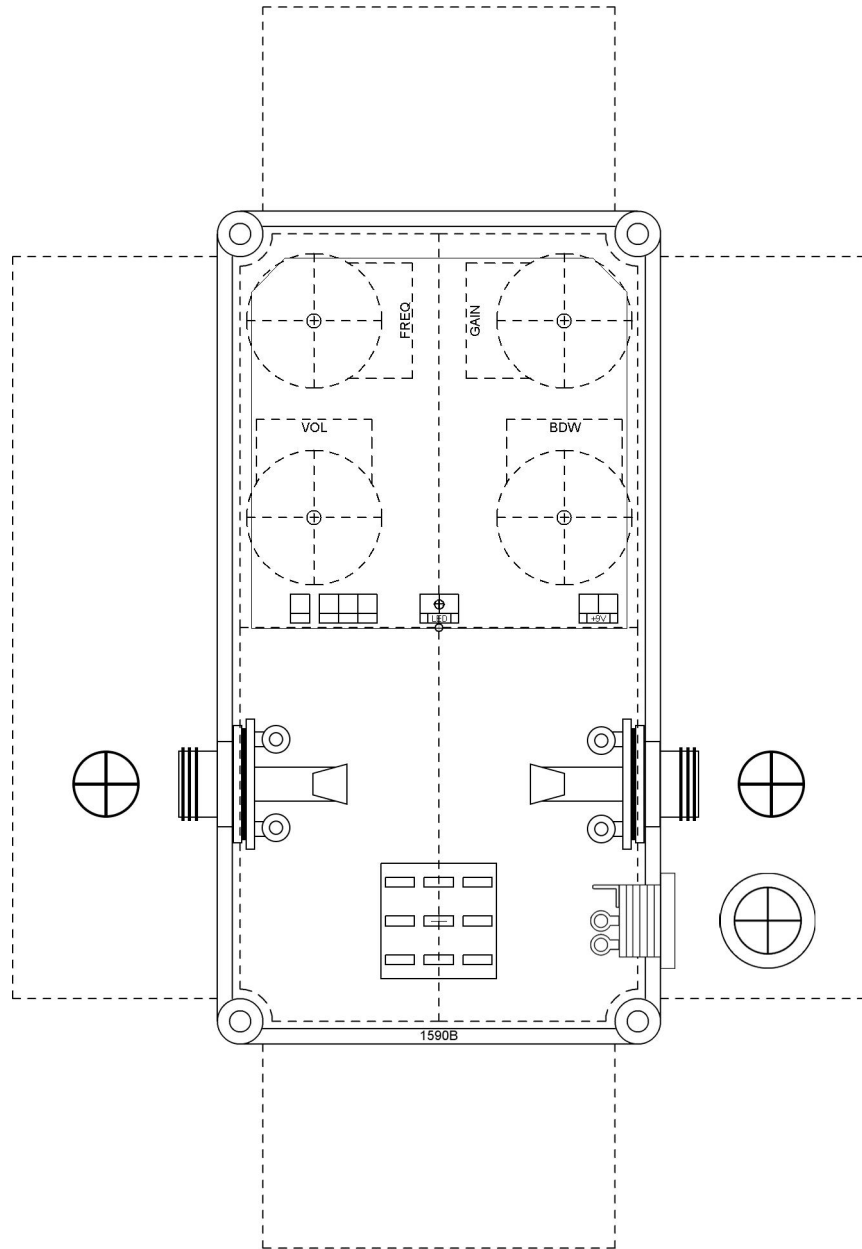
**Terms of Use:** You are free to use purchased **KarateShop** circuit boards for both DIY and small commercial operations. You may not offer **KarateShop** PCBs for resale or as part of a “kit” in a commercial fashion. Peer to peer re-sale is, of course, okay.

B.O.M.					
Resistors		Caps		Diodes	
R1	1k	C1	2n2	D1	1N4148
R2	10M	C2	1uF	Transistors	
R3	22k	C3	47n	Q1	MPF102
R4	22k	C4	10uF	Q2	2N5088
R5	27k	C5	10uF	I.C.	
R6	5k1	C6	1uF	IC1	TL074
R7	1k	C7	47n	Pots	
R8	1k	C8	10uF	BDW	5kB
R9	10k	C9	10uF	VOL	50kA
R10	20k	C10	100uF	FREQ	50kA
R11	510R	C11	100n	GAIN	50kA
R12	2k2	C12	10n		
R13	100k	C13	10uF		
R14	4k7	C14	10uF		
R15	22k				
R16	240k				
R17	1k				
R18	10k				
R19	10k				

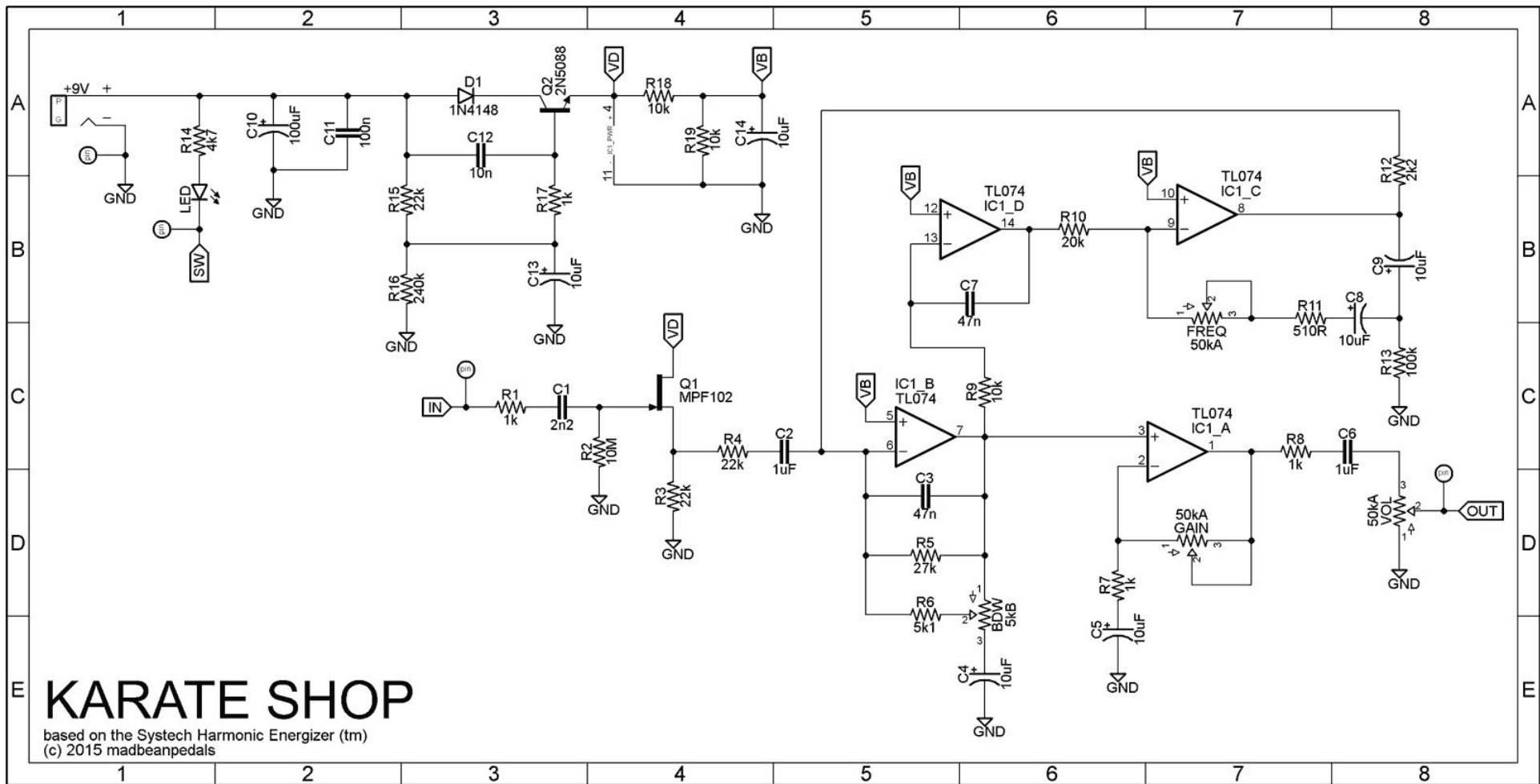
Shopping List				
Value	QTY	Type	Rating	
510R	1	Metal / Carbon Film	1/4W	
1k	4	Metal / Carbon Film	1/4W	
2k2	1	Metal / Carbon Film	1/4W	
4k7	1	Metal / Carbon Film	1/4W	
5k1	1	Metal / Carbon Film	1/4W	
10k	3	Metal / Carbon Film	1/4W	
20k	1	Metal / Carbon Film	1/4W	
22k	3	Metal / Carbon Film	1/4W	
27k	1	Metal / Carbon Film	1/4W	
100k	1	Metal / Carbon Film	1/4W	
240k	1	Metal / Carbon Film	1/4W	
10M	1	Metal / Carbon Film	1/4W	
2n2	1	Film	25v min	
10n	1	Film	25v min	
47n	2	Film	25v min	
100n	1	Film	25v min	
1uF	2	Film	25v min	
10uF	6	Electrolytic	25v min	
100uF	1	Electrolytic	25v min	
1N4148	1			
MPF102	1	or, 2N5458 (stock)		
2N5088	1			
TL074	1			
5kB	1	PCB Mount, Short Pin	16mm	
50kA	3	PCB Mount, Short Pin	16mm	

# Drill Guide

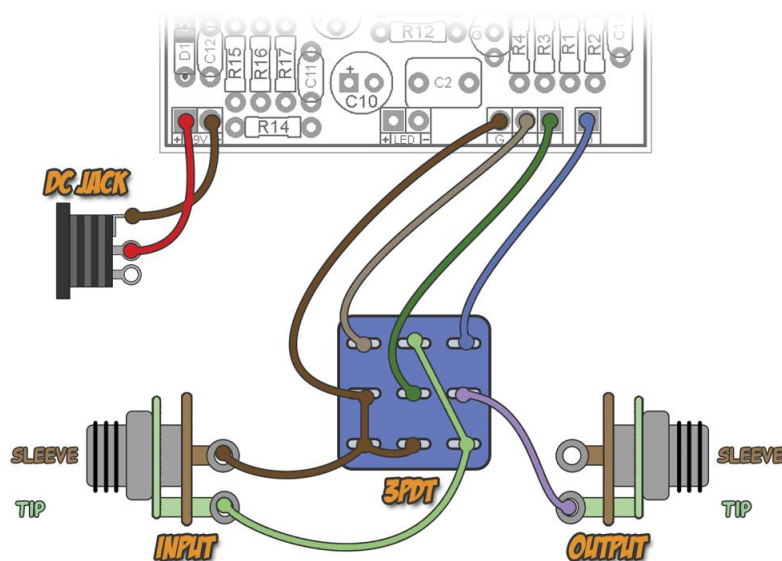
4.43" W x 6.46" H



*(The indicator LED can be mounted directly to the PCB or wired to any spot on the enclosure)*



## Wiring Guide



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The **Karate Shop** is based on the Systech® Harmonic Energizer™, a wide-range notch filter. If you want a “stuck wah” type effect with a huge range of frequency choices and boost on tap then this is the project for you. And...it’s incredibly fun to play with! Check out “Shut Up and Play Yer Guitar” record by Frank Zappa to get an idea of the range of tones the Karate Shop has to offer.

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### Controls

**BDW:** The bandwidth control changes the “sharpness” of the frequency notch.

**FREQ:** The frequency control lets you pick which frequency to boost.

**GAIN:** This controls the gain applied to the selected frequency.

**VOL:** Master output volume. This control does not *add* volume to the effect – it is meant to attenuate the output when the GAIN control is set high.

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### Notes

On its own, the Karate shop is useful to boost a specific frequency of your guitar into high resonance. The “stuck wah” is one example. Another use would be to pick a much lower frequency to warm up a bright guitar or amp. Using the KarateShop in conjunction with another effect is also very useful. For example, in front of a boost or overdrive pedal. Another use would be in the effects loop of a delay to modify the tonal character of the delay repeats. Experimentation is key to getting the most out of this weird little guy.

The KarateShop also works very well at 18v. You will gain a bit more headroom and dynamics. A Road Rage or 3PRR would work fine for this. You could probably go as high as 24v (although not with the Road Rage or 3PRR boards), but this has not been tested.

## Voltages

Q1	vDC
D	7.95
G	0v
S	2.85

Q2	
C	8.81
B	35mV
E	7.95

IC1	
1	3.98
2	3.98
3	3.98
4	7.95
5	3.98
6	3.98
7	3.99
8	3.99
9	3.98
10	3.98
11	0v
12	3.98
13	3.98
14	3.98

