

# 8-BALL

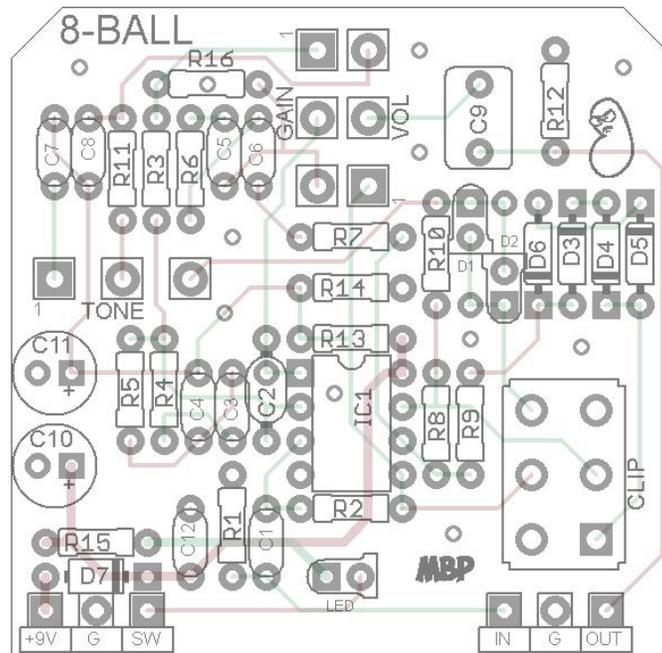
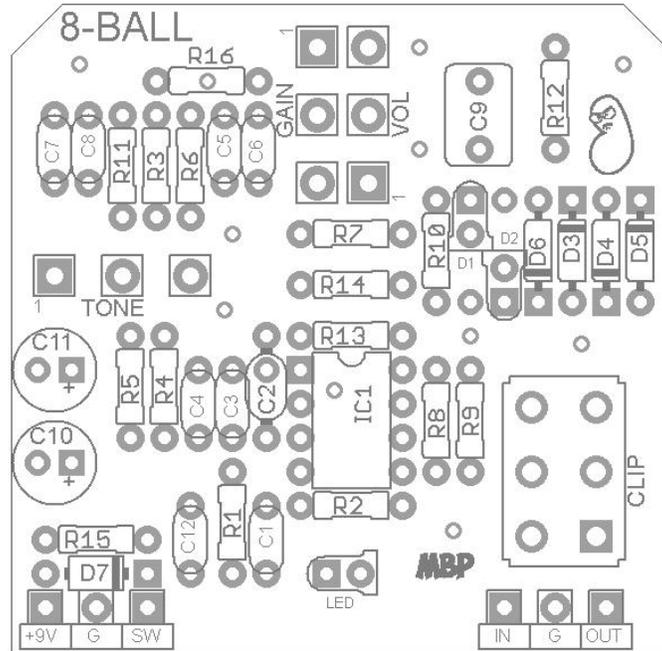
FT TYPE: Overdrive

Based on the Marshall® Blues Breaker™

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08.16 – corrected link to DPDT switch!

1.95" W x 1.91" H



The extra small pads are vias. You do not need to do anything with them.

**Terms of Use:** You are free to use purchased 8-Ball circuit boards for both DIY and small commercial operations. You may not offer 8-Ball PCBs for resale or as part of a "kit" in a commercial fashion. Peer to peer re-sale is, of course, okay.

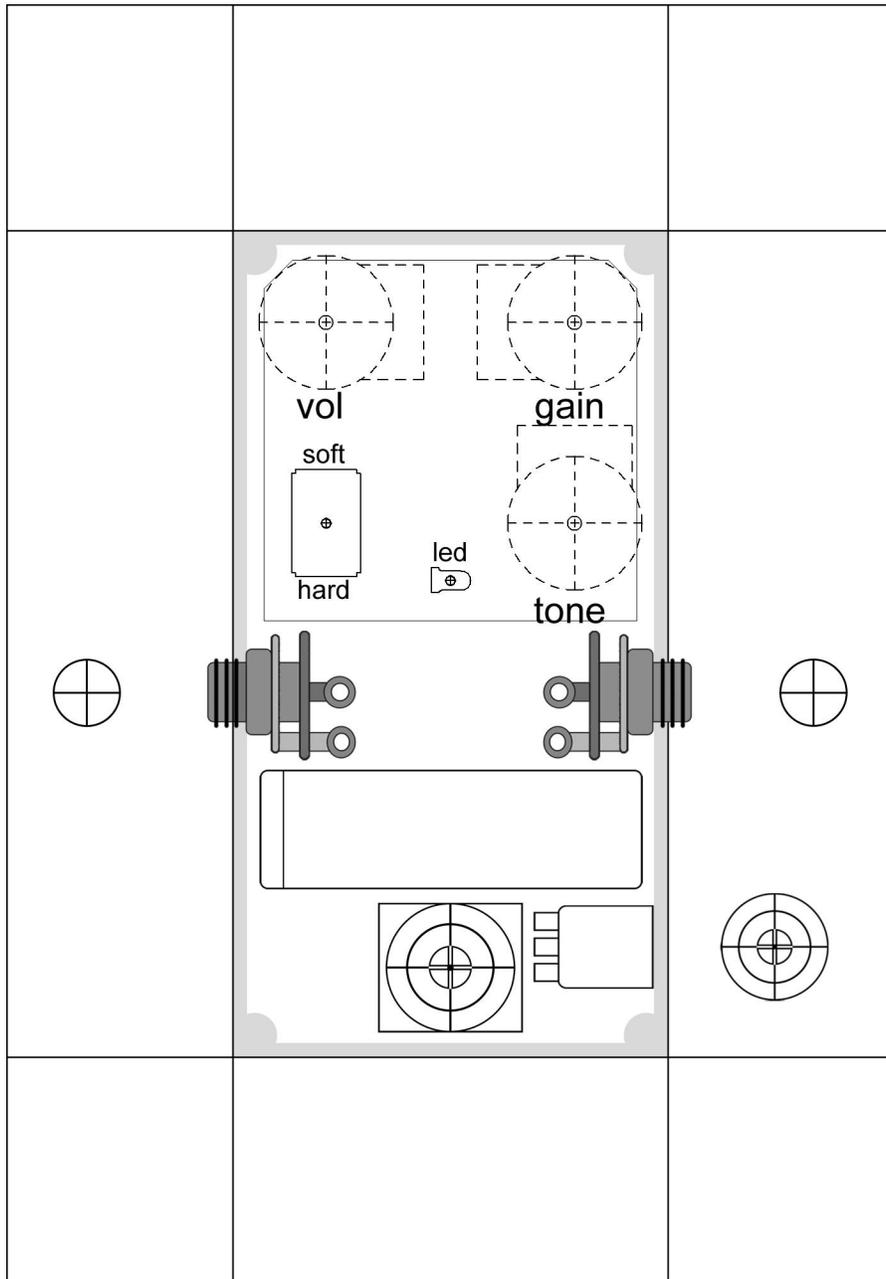
8-Ball Tweaked Values					
Resistors		Caps		Diodes	
R1	2M2	C1	56n	D1, D2	*see notes
R2	1M	C2	47pF	D3 - D6	1n914
R3	3k3	C3	15n	D7	1N5817
R4	3k3	C4	56n	<b>IC</b>	
R5	4k7	C5	220n	IC1	4558
R6	4k7	C6	220n	<b>Switch</b>	
R7	4k7	C7	10n	CLIP	DPDT
R8	270k	C8	10n	<b>Pots</b>	
R9	6k8	C9	1uF	GAIN	250kB
R10	1k	C10	100uF	TONE	25kB
R11	6k8	C11	100uF	VOL	100kA
R12	1M	C12	100n		
R13	47k				
R14	47k				
R15	4k7				
R16	680k				

Shopping List			
Value	QTY	Type	Rating
1k	1	Metal / Carbon Film	1/4W
3k3	2	Metal / Carbon Film	1/4W
4k7	4	Metal / Carbon Film	1/4W
6k8	2	Metal / Carbon Film	1/4W
47k	2	Metal / Carbon Film	1/4W
270k	1	Metal / Carbon Film	1/4W
680k	1	Metal / Carbon Film	1/4W
1M	2	Metal / Carbon Film	1/4W
2M2	1	Metal / Carbon Film	1/4W
47pF	1	Ceramic / Mica	16v or more
10n	2	Film	16v or more
15n	1	Film	16v or more
56n	2	Film	16v or more
100n	1	Film	16v or more
220n	2	Film	16v or more
1uF	1	Film	16v or more
100uF	2	Electrolytic	16v or more
1n914	4		
RED LED 3MM	2	Alt: 1N4001	
1N5817	1		
4558	1	Or other Dual Op-Amp	
DPDT	1	Pin Mount - critical!	On/On
250kB	1	PCB Mount	16mm
25kB	1	PCB Mount	16mm
100kA	1	PCB Mount	16mm

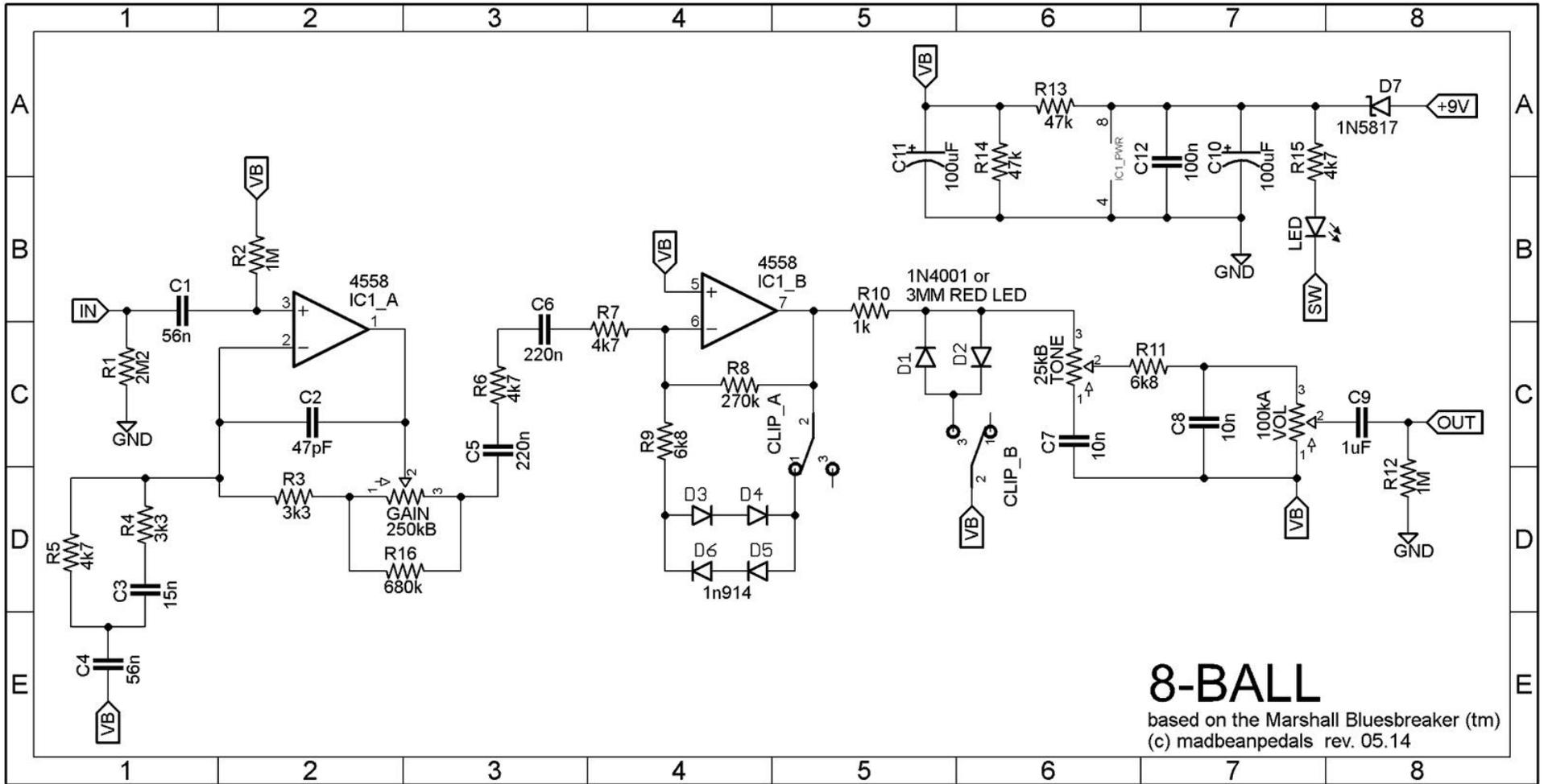
Use this DPDT switch: <http://www.smallbearelec.com/servlet/Detail?no=1392>

# 1590B Drill Template

4.64" W x 6.69" H



Download the Photoshop file used for this template here:  
[http://www.madbeanpedals.com/projects/8Ball/8Ball\\_Drill.zip](http://www.madbeanpedals.com/projects/8Ball/8Ball_Drill.zip)



The **8-Ball** is based on the Marshall® Blues Breaker™ pedal. It has several modifications to increase the range of overdrive as well as address some of the inherent brightness of the stock design. This should be a very easy project for all levels of builders as well as provide a solid foundation to any pedal board.

The 8-Ball includes two clipping options: the stock soft clipping and LED hard clipping. These are very different sounding. The soft clip is very smooth while the LED clipping is quite aggressive. The remaining mods are all at the component value level. The stock version has been re-voiced to a thicker, meaty overdrive via some cap value tweaks. The 8-Ball also has more gain on tap. Finally, the traditionally low output of the stock unit has been increased slightly. Note that the 8-Ball is still on the low side of total output so you should expect unity volume at around 1 to 2 o'clock on the Volume knob.

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### Notes

- There are extra pads just below D1 and above D2. These pads are provided for you alternate signal diodes like the 1N4001 instead of LEDs (in order to lay the diodes flat).
- C2 has spacing for either ceramic or silver mica capacitors.
- You must use a pin mounted DPDT switch. I have based the PCB component on this switch, available at smallbear and other suppliers: <http://www.smallbearlec.com/servlet/Detail?no=1392>  
“Taiway 1MD1T1B1C0M2QE”
- The 8-Ball will run at 18v, provided you use sufficiently rated caps.
- You can increase the effect output further by going up to 300k on R8. This is as far as I could take it before making the circuit unstable.



8-Ball prototype board