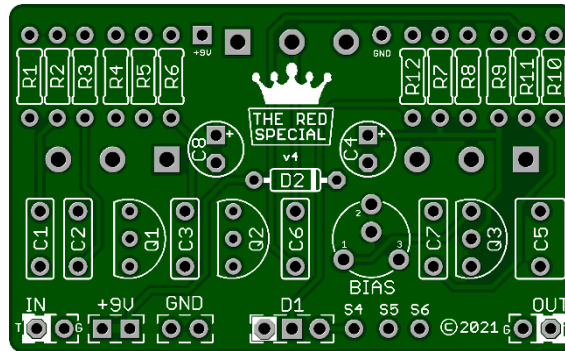


# Red Special v4 2022



Board dimensions 2.05" x 1.26"

*Based on the RunoffGroove circuit MayQueen this circuit was further modified by Tonmann adding some tonal changes as well as an amazing SAG control giving ultimate versatility. The pedal cleans up nicely with the guitar volume and sounds great with single coil pickups too.*

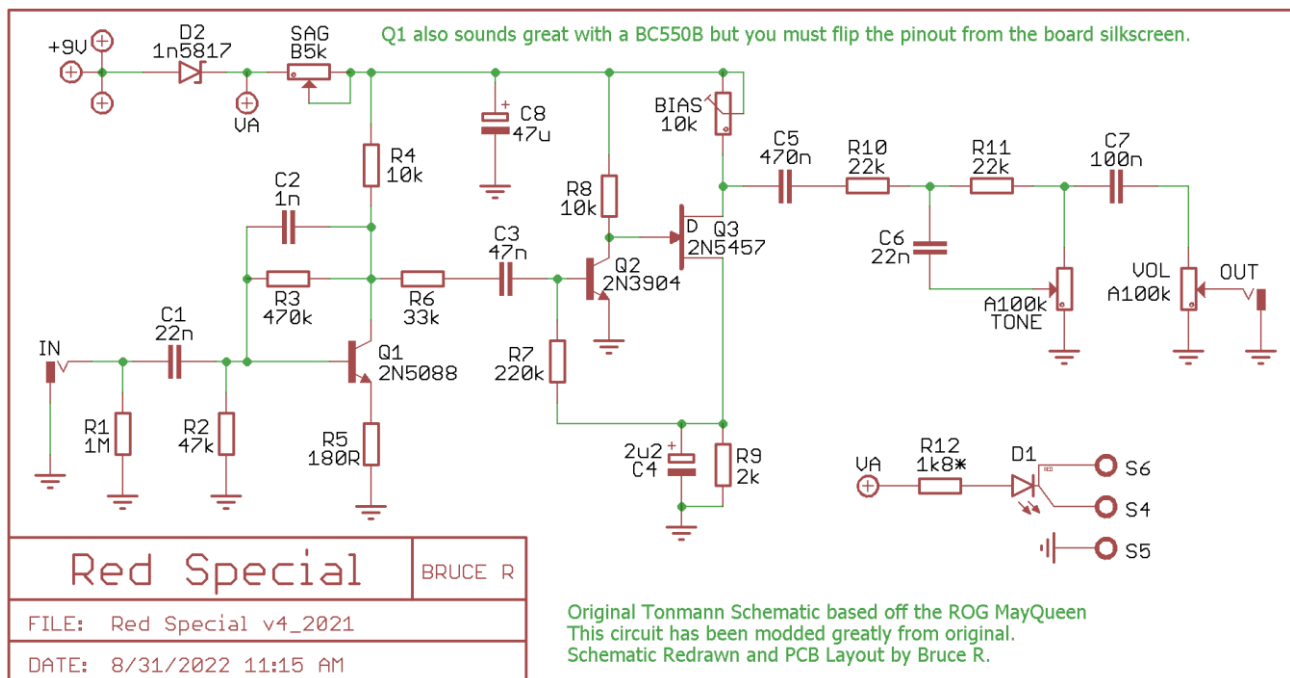
Part	Value	Part	Value	Part	Value	Part	Value
R1	1M	R8	10k	C3	47n	Q1	2N5088*
R2	47k	R9	2k	C4	2u2	Q2	2N3904
R3	470k	R10	22k	C5	470n	Q3	2N5457
R4	10k	R11	22k	C6	22n	SAG	B5k
R5	180R	R12	1k8*	C7	100n	TONE	A100k
R6	33k	C1	22n	C8	47u	VOL	A100k
R7	220k	C2	1n	*D1	Status LED	BIAS	10k Trim
				D2	1N5817		

## STATUS LED

\*D1 is a Status LED that can be either a Bi-Color Common Anode or a Standard On/Off LED. (See Tip Sheet)

## New in this GuitarPCB 2022 version release:

- Added (D2) 1N5817 circuit protection diode.
- On-board potentiometers
- Larger off-board wiring pads.
- Added extra +9v and Ground pads for "Combo Builds" allowing for easy wiring options. Excellent for using this in tandem with our Tone TweEQ.



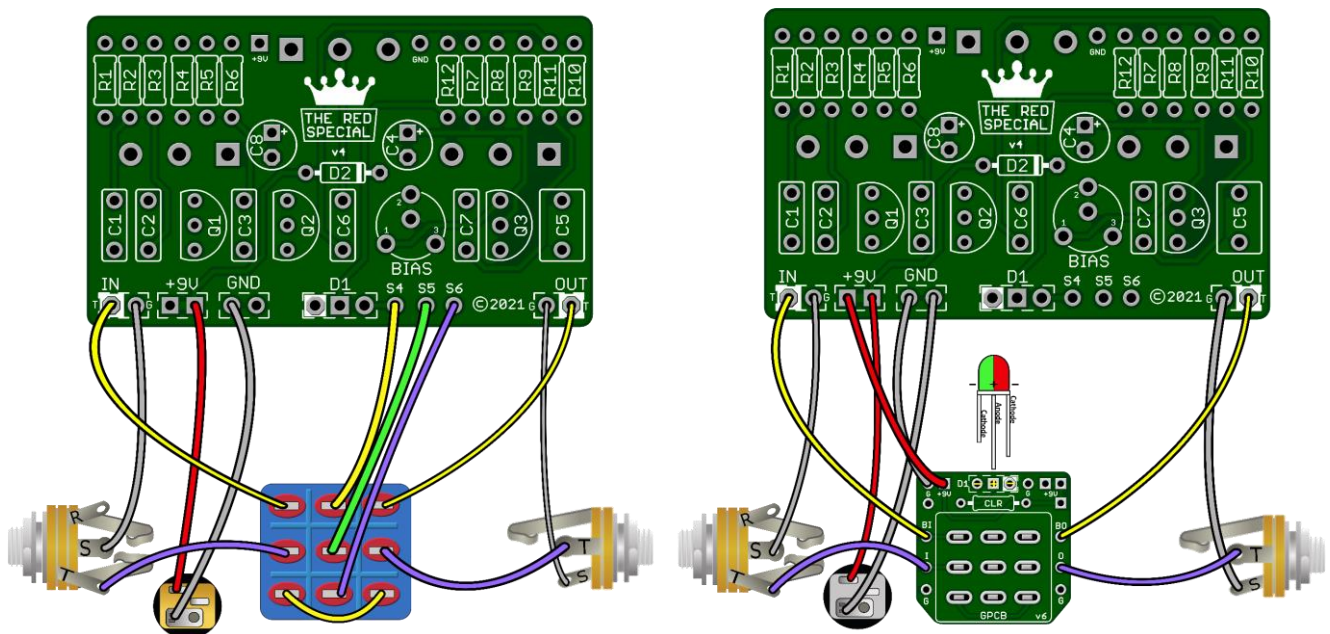
## Build Notes:

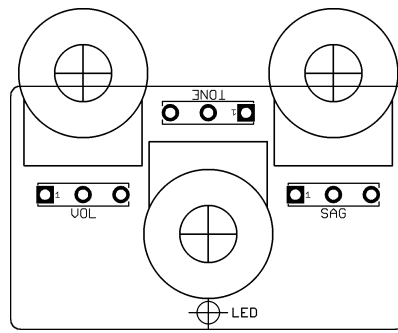
**\*Q1 stock is 2N5088 but also sounds great with BC550B. To use it flip the pin-out from board silkscreen!**

The bias trim pot is nominally set for a voltage of 5.5v to 6v on the drain of Q3. This can then be adjusted by ear to obtain your favorite results. The Tone pot should use an **A100K** log potentiometer. Changing this to a linear pot will work, but produce a different feel that we do not prefer.

The original circuit had a lot of high frequency content and the output was extremely high. If you want more treble in this circuit, I would suggest changing C2 to something like 560pF. The cap at C5 can be adjusted from 100n to 470n, feel free to experiment. This circuit goes great with the Tone TwEQ circuit for added tonality!

I am indebted to Mr Jack Orman at [www.muzique.com](http://www.muzique.com) for the inspiration for the tone control section. Thank you to Runoffgroove for the original circuit design from which this is based.





**Drill Tips:** Measure your components before selecting a drill bit. We recommend drilling the pot holes, mounting the pots in the enclosure, and then soldering the pots to the board. This approach should resolve the issue of the pots not fitting through the holes after soldering. We also recommend you make the holes for the pots a little larger than the threads in case you decide to remove the board and put it back in during the build, to avoid problems. Use this guide at your own risk. Make sure page scaling is turned off when you print this PDF, or the image above may be smaller than expected. Verify everything before drilling.

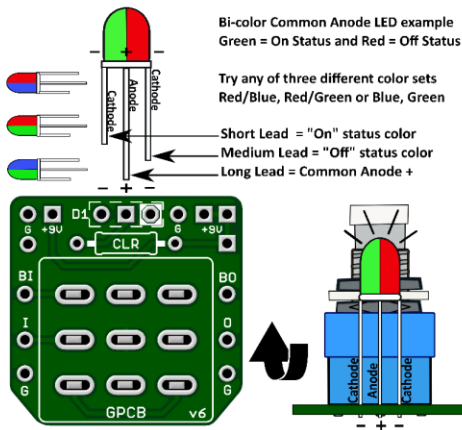
## [Soldering Tutorial on Youtube](#)

### **Need a kit? Check out our authorized worldwide distributors:**

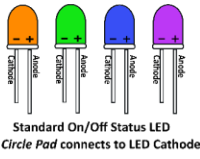
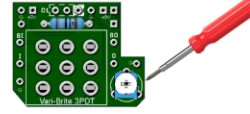
- USA – Check out [PedalPartsAndKits](#) for all your GuitarPCB kit needs in the USA.
- Europe – [Das Musikding](#) Order either boards or kits direct from Europe.
- [PedalPartsAustralia](#) - Order either boards or kits direct from Australia



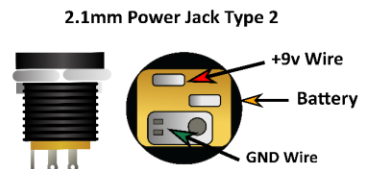
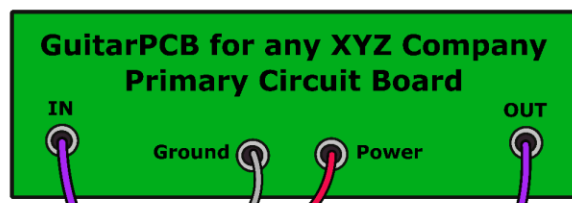
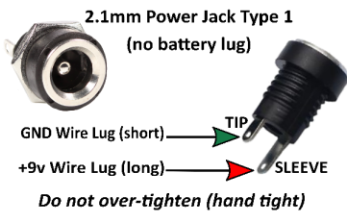
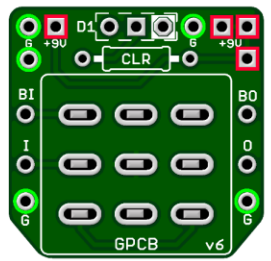
# GuitarPCB Tip Sheet



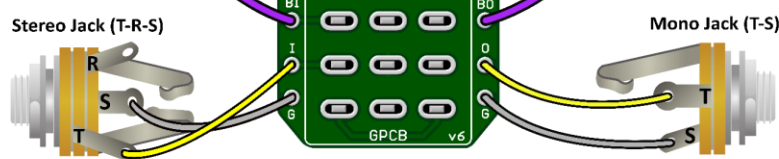
Try our 3PDT Vari-Bright version w/ on-board Trimmer to adjust brightness



- Green = Ground Pads (5)
- Red = +9v Power Pads (4)
- D1 = LED Pads
- CLR = Current Limiting Resistor
- BI = From Main Board IN
- BO = From Main Board OUT
- I = To Jack Tip IN
- O = To Jack Tip OUT

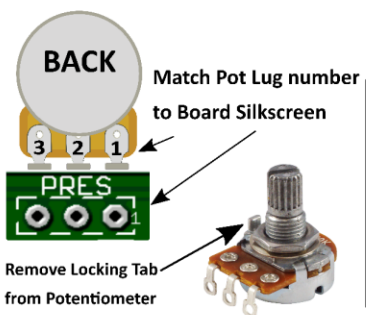


T = Tip  
R = Ring  
S = Sleeve

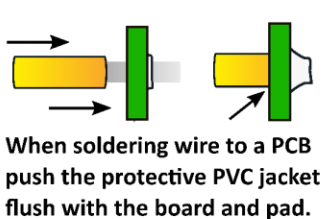
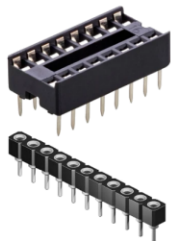


T = Tip  
S = Sleeve

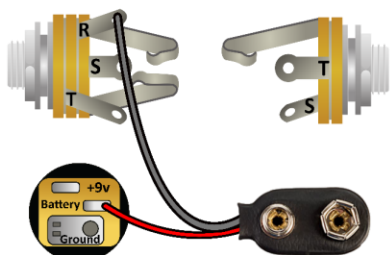
Multiple +9v and Ground Pads are convenient hookup points for additional circuits within the same enclosure. This also allows for diverse wiring schemes to suit individual needs.



Sockets make troubleshooting easier



Main Board IN/OUT Pads



## Input/Output Jack Wiring T = Tip | R = Ring | S = Sleeve

A Stereo Jack is only needed if using a Battery. Otherwise use a Mono Jack  
Battery Strap RED wire is connected to Power Jack  
Battery Strap Black wire is connected to RING (stereo jack)  
If wiring an LED to our 3PDT Wiring Board then S4, S5 & S6 are not needed



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