Amp Tone Stack + Gain Recovery

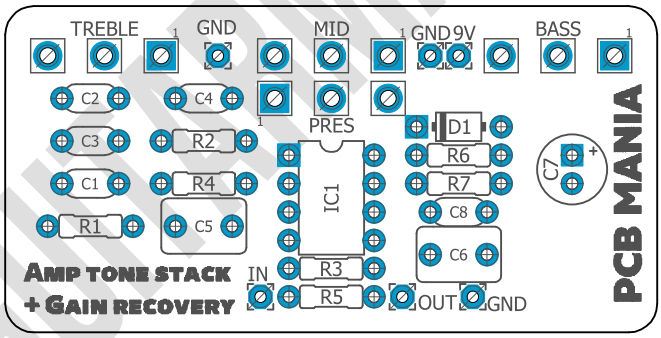
Based on:
Classic British Amp tone section
Effect type:
Pedal Development Tool
Eq Add-on
Build difficult:
Easy

Amount of parts:
Low, total 21 components
Technology:
JFET
Power consumption:
9V

Enclosure type:
125b
Get your board at:
Amp Tone Stack + Gain Recovery
Get your kit at:
Das Musikding (Europe)

Project overview:

Would you like to take a more classic, and amp alike approach to your build? Just add this EQ section to it!



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Introduction

Recreates the 3 bands tone stack in the same way as it's on tube amplifier and on many other famous amp in a box pedals (Catalinbread dirty little secret). This board allows you to experiment with different values in order to get different tone responses based on many classic amps.
Following the tone section, we have an external Presence control that follows the same amp a like logic.
As usually, this tone stacks suck a lot of volume and gain, we have included at last one gain recovery stage.
If you want to go with a more vintage approach you can easily bypass this last section.

Controls

- Bass
- Mid
- Pres
- Treble

Bill of material

Resistors	
Part	**Value**
R1	47k
R2	22k
R3	1M
R4	4k7
R5	1k
R6	10k
R7	10k

Diods	
Part	**Value**
D1	1n5817

Capacitors	
Part	**Value**
C1	680p
C2	22n
C3	22n
C4	3n3
C5	1U
C6	1u
C8	100n

Electrolytics Capacitors	
Part	**Value**
C7	220u

Potentiometers	
Part	**Value**
BASS	A 1M
MID	A 25k
PRES	B 25k
TREBLE	B 250k

Trimpots	
Part	**Value**
IC1	TL062

Shopping list

Resistors		
Qty	**Value**	**Parts**
2	10k	R6, R7
1	1M	R3
1	1k	R5
1	22k	R2
1	47k	R1
1	4k7	R4

Capacitors		
Qty	**Value**	**Parts**
1	100n	C8
1	1U	C5
1	1u	C6
2	22n	C2, C3
1	3n3	C4
1	680p	C1

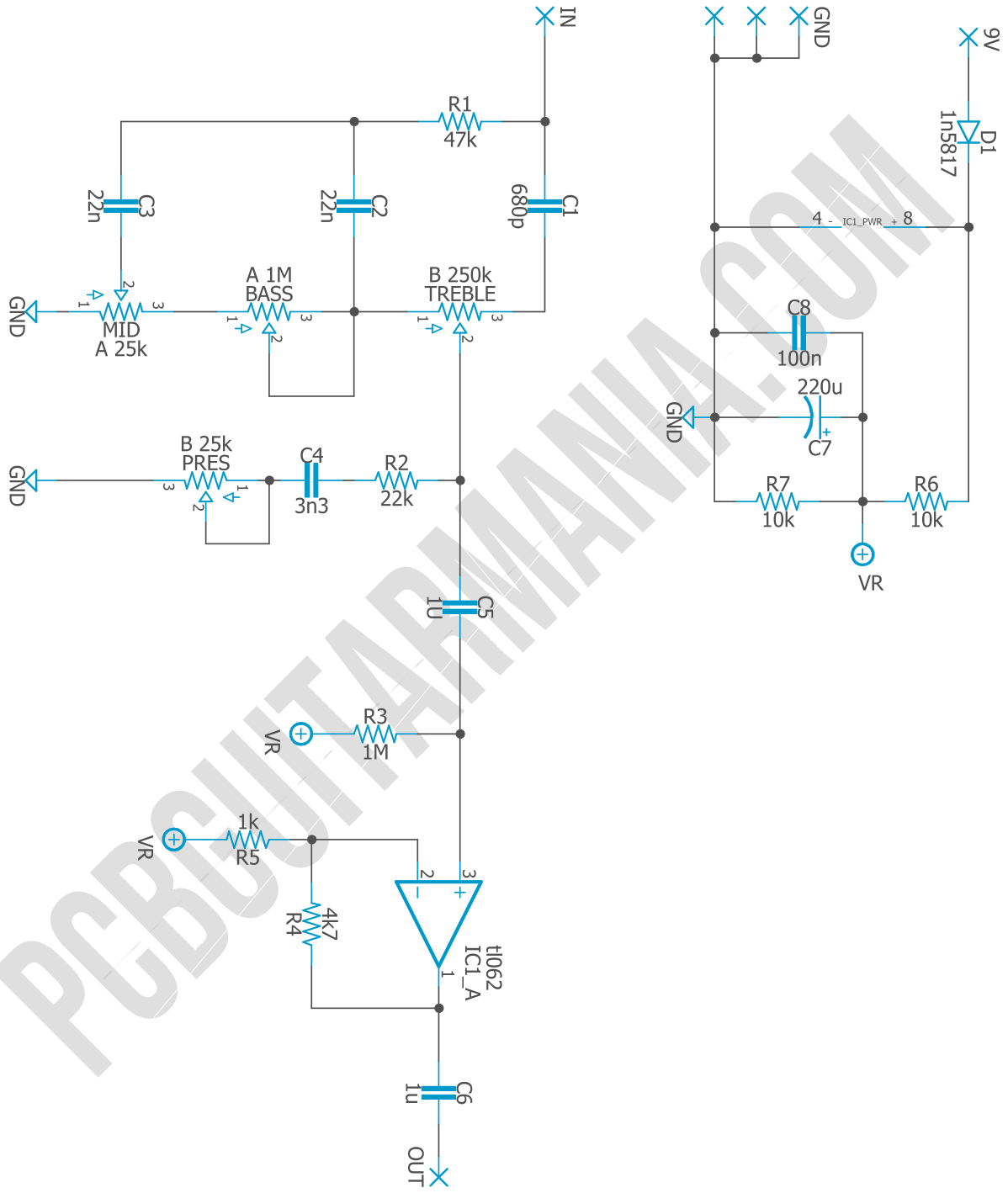
Electrolytics Capacitors		
Qty	**Value**	**Parts**
1	220u	C7

Potentiometers		
Qty	**Value**	**Parts**
1	A 1M	BASS
1	A 25k	MID
1	B 250k	TREBLE
1	B 25k	PRES

IC		
Qty	**Value**	**Parts**
1	TL062	IC1

Diods		
Qty	**Value**	**Parts**
1	1n5817	D1

Schematic



Components Recommendations

As many people like to experiment with some pedals with higher voltage, always ensure your **electrolytic capacitors'** max tolerance is over 25v.

This board has been tested using Film box capacitors for most of the values over 1nf and ceramics discs for those under 1nf. However, high-quality components such as Wima's Capacitors and Panasonic's electrolytics can deliver a better performance.

All the resistors used for testing this project are 1/4W Metal Film.

The BOM and Shopping list are exclusive regarding this project. It doesn't include all the hardware like the 3PDT bypass switch, audio/dc jacks, enclosure, etc.

Build Notes

If this is one of your first projects, I recommend you to take a look at our Pedal Building Guide.

For a successful and tidy build, it's recommended the following order:

1. Resistors & diodes
2. Capacitors, starting with the smaller ones and the ceramic ones.
3. Electrolytic capacitors (always check the polarity)
4. Transistors
5. Wires
6. Potentiometers and switches
7. Off-board wiring

Wiring Diagram

All our projects include a free 3PDT Board to make the wiring easier and tidier. Also, all of our PCBs feature the status LED on board.

The pad named "Ctrl" or "LED" is the one that controls the status of the led; wire it to the "LED" pad on the 3PDT board or in the control slug of your 3PDT.

This board has been designed to match our EZ 3PDT PCB; check it here to access our Pedal Wiring Guide.

Drill Template

This Project has been planned to fit into a 125b enclosure type.

Check the Attached “Drilling templates” to drill the box properly. The files are on Scale 1:1, ready to print on an A4 page.

Licensing and Usage

We really appreciate your trust and support in buying this PCB, as well as your will to dive into the DIY electronics world. For us, that's why you can make this project work properly and enjoy not only the building process but also experiment and play with it on your rig.

We try to reply to every question we receive on our email or our social media. Still, we try to encourage all our customers to join our PCB Guitar Mania – Builders Group on Facebook to post all your doubts, issues, suggestions, or requests, share your builds, and have some feedback from other fellow builders and us!

We tested all our projects following this same guide on their standard configurations. Although, not all of the variations and mods have necessarily been checked. These are suggestions based on the schematic analysis and the experiences and opinions of others. Feel free to share with us your views and recommendations regarding the mods your personal experimentation.

These boards may be used for commercial endeavors in any quantity unless expressly noted. No attribution is necessary, though accreditation or a link back is always much appreciated.

If you are a builder planning to make your own run of pedals, we also offer the service of custom-made boards with your brand and logo, design according to your specifications.

The only usage restrictions are that, first, you cannot resell the PCB as part of a kit without prior arrangement with us, and second, you cannot scratch off the silkscreen or other way of trying to hide our logos and the source of the PCBs. Like it's written above, if you want to have your designs with your brand and logo, we could undoubtedly reach an agreement.

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