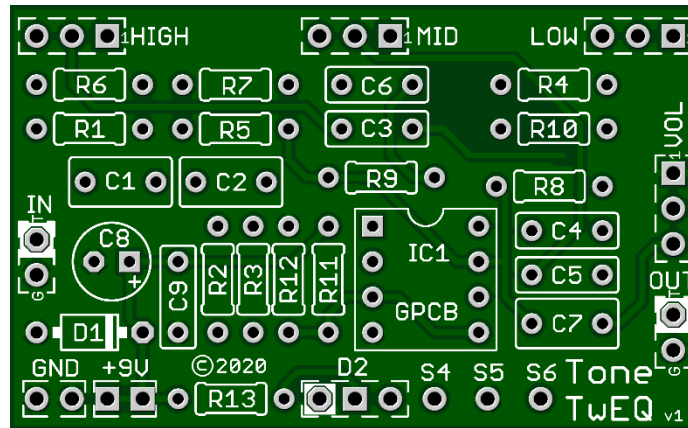


TONE TWEQ v1 2020

This is an active, true tone control or equalizer. It is useful for both guitar and bass instruments. Each band will boost or cut the signal. Start with each control in the center or 50% position. Turn the control clockwise, CW to BOOST and counter-clockwise, CCW to CUT the signal. After achieving the desired tone setting, adjust the final volume level to suit.



Board Dimensions - 1.96" x 1.20"

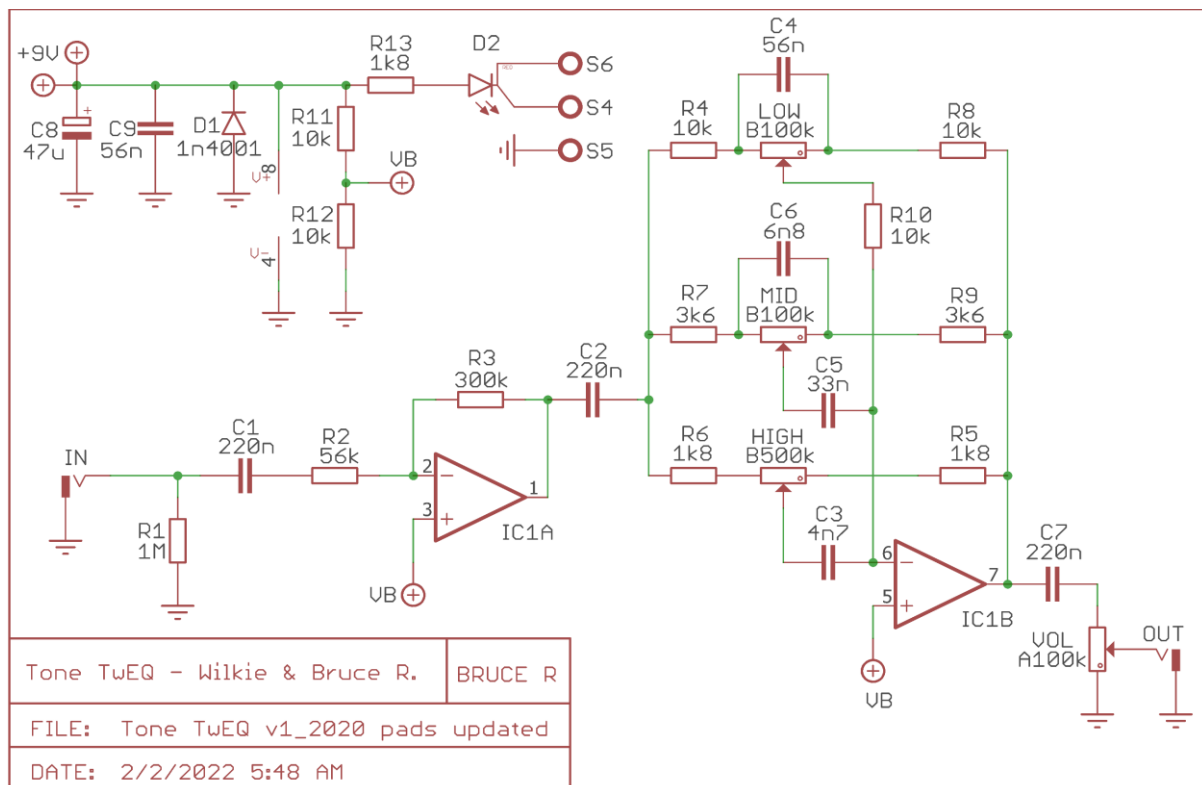
Part	Value		Part	Value
R1	1M		C1	220n
R2	56k		C2	220n
R3	300k		C3	4n7
R4	10k		C4	56n
R5	1k8		C5	33n
R6	1k8		C6	6n8
R7	3k6		C7	220n
R8	10k		C8	47u
R9	3k6		C9	56n
R10	10k		IC1	TL072
R11	10k		Volume	A100k
R12	10k		Low	B100k
*R13	1k8		Mid	B100k
D1	1N4001		High	B500k

Build Notes

D2 is the Status LED if you choose and R13 is the current limiting resistor. If you instead wire the LED to a foot switch there is no need to install

The only difference between v1 and v1 2020 are pad updates, highlighting In/Out pads and additional power and ground pads. So you may use this guide for any v1 build version.

SCHEMATIC



Build Notes

Note: You may optionally use 9mm pots as they will be in the proper orientation (as will the trimmer) be with the circuit board.

This is a full spectrum circuit and is ready as is for Bass or 6 string guitars. Standard 6 string guitarists may not want any audible sub-harmonics especially when playing loud. In this case you may populate C1 and C2 with a value of 68n to 100n instead of the standard 220n. Note that a value of 220n does make the circuit Bass ready.

While hand wiring potentiometers is standard you may use 9mm board-mounted pots to solder them in a nice, even row.

When using the Tone TwEQ in tandem with another circuit board you can consider using a “standing” trimmer for the Volume control to use as a set and forget adjustment on the inside of the enclosure. Like most EQ, Volume or Level controls, are not something you are going to change that much so it is just another way of doing things should you decide to go that route.

Note: 9mm potentiometers and trimmers are not standard for Kits. This is considered a mod idea.

Tone TwEQ + On-Board Pot Bundle

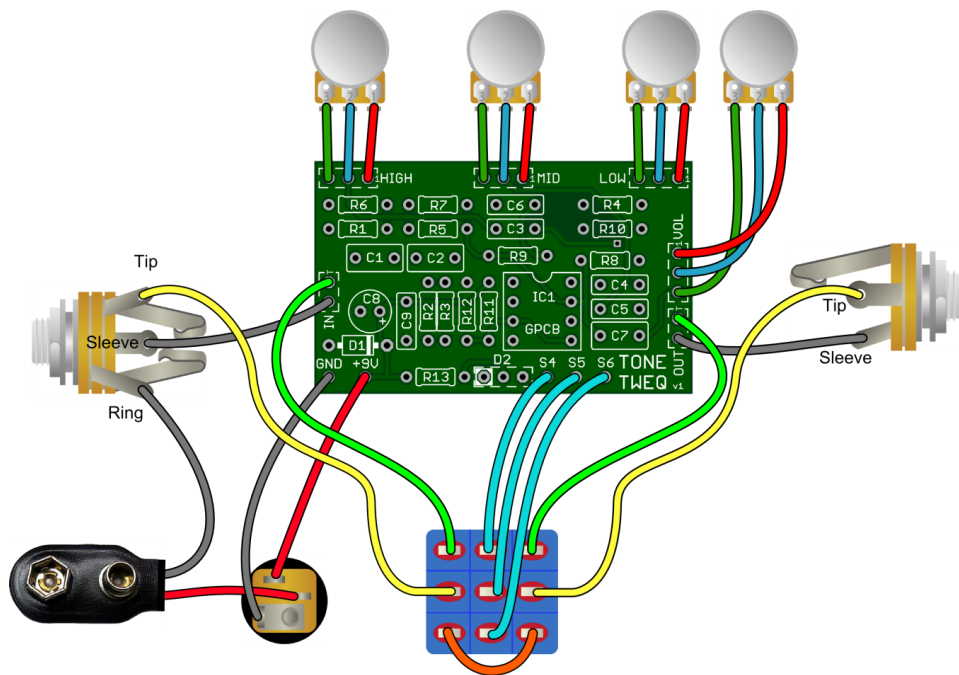
Perfect for Tone TwEQ Volume Control

100k Right Angle Standing Trimmer

B100k B100k B500k

Make any circuit "Badass" with a Tone TwEQ

Tone TwEQ - Isolated Wiring Diagram

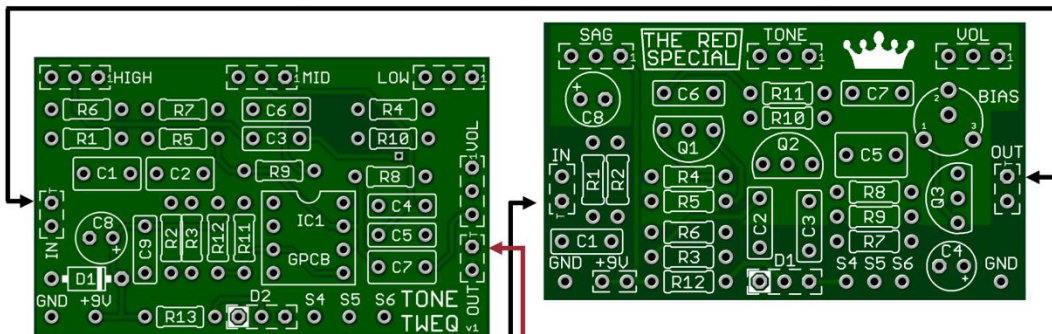


In the wiring diagram above, you notice that the sleeve of each jack is connected to a ground pad on the board next to the input pad or output pad. It does not matter to which ground pad each jack is connected, as long as the sleeve is connected to ground. The pad marked "T" is the input or output, and the adjacent pad is ground.

Alternative Series Combo Wiring – Make any Circuit Boutique by adding an Active 3 Band EQ

Easy Wiring Diagram two boards in series

In this example we will discuss the Red Special in tandem with the Tone TwEQ



How to use the Tone TwEQ in series with the Red Special or any other circuit for that matter.

1. The **Tone TwEQ** is an **Active EQ** so do not turn things to 10 just because you can!
2. General rule of thumb is to adjust the Volume to unity gain first. Do not add and perhaps reduce a little.
3. Set the **Tone Controls** to roughly 12:00 for a flat response.
4. Now that you have it setup, each **Tone control** can add up to 15dB of gain or cut in the same manner.
5. As a **Bad example** do not turn the **Volume** up and then turn the **Treble** up or you will get noise and hiss!
6. Take time following the steps to learn how to properly work the **Tone TwEQ** and you will be rewarded.

With Regard to the Red Special & using the Tone TwEQ

Finally keep in mind that with the **Red Special** you can fine tune your **Tone** with its on board **Tone control** as well and add to that adjust the SAG control to dial out some of the Fuzz till it suits your rig (ears) and still sustains nicely.

With Regard to **Tone TwEQ** settings:

Good Example 1: Boost Mid to 2:00 leave everything else flat. Now you are close to a Boston style tone.

Good Example 2: Lower Bass to 10:00, Flat Mid and Boost High to 2:00. Now you have a Queen style tone.

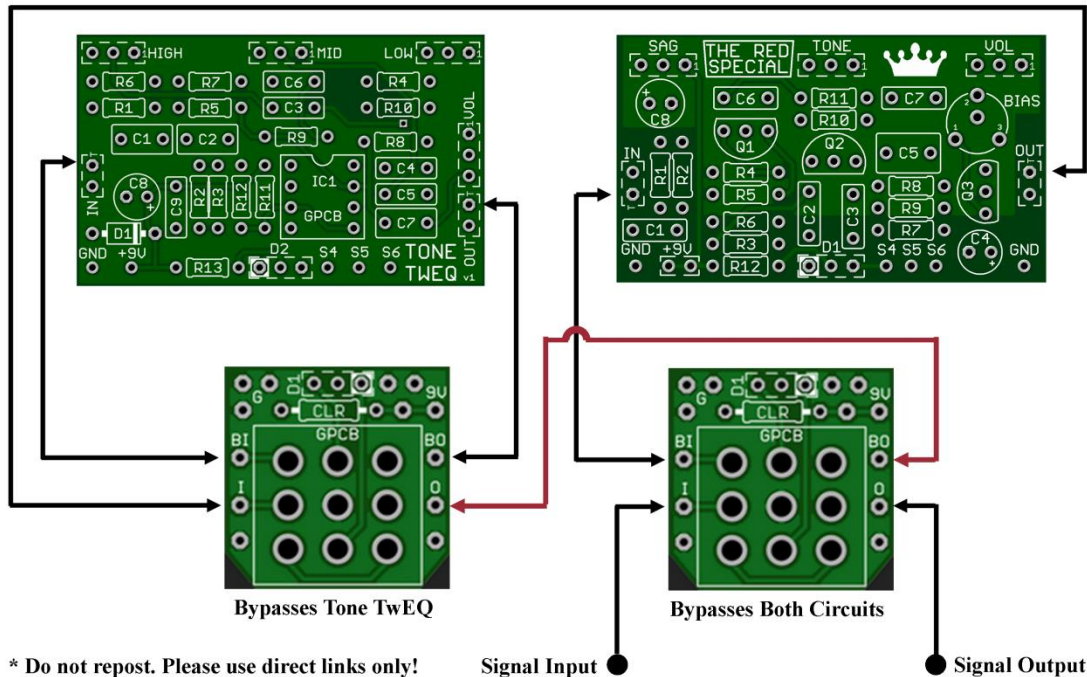
Diagram courtesy of GuitarPCB.com

*Do not repost on other sites. Please use direct links only.

Alternate Tone TwEQ Combo Wiring Scheme - Courtesy of Wilkie1 @ GuitarPCB.com

This scheme will permit bypassing both circuits at once or punch in the Tone TwEQ - EQ to the Red Special.

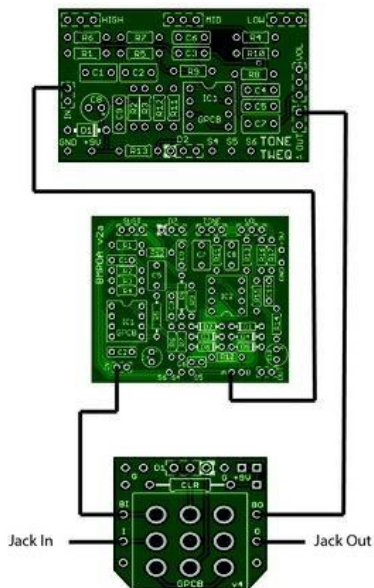
By adding the 2nd bypass switch for the Tone TwEQ, you can preset those filters for that special sound “like Boston” and then punch it in for that number in the set. So many options!
You may want a Tone TwEQ Combo for every circuit!



Additional Wiring Ideas – Featuring Popular GuitarPCB Projects

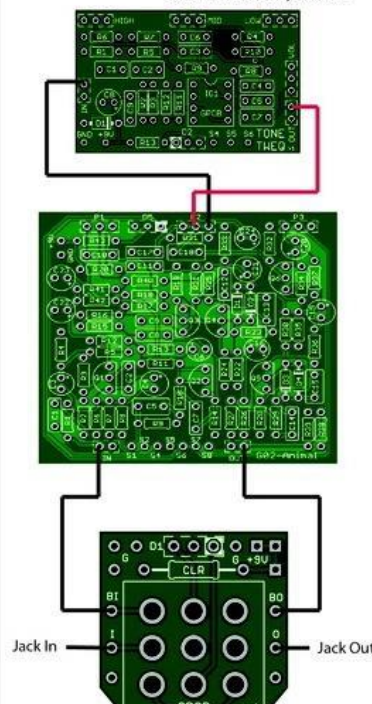
BMP Opamp with Tone TwEQ

Volume pot of BMP is not installed, Tone TwEQ will manage the volume.
No need to install component after pad A, they can stay if already installed



G02 Animal with Tone TwEQ

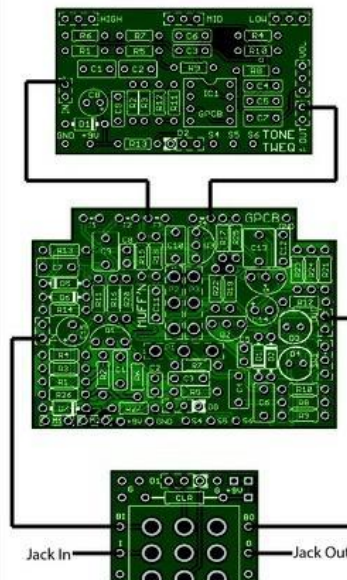
Tone TwEQ replace tone pot of G02. C17 of G02 is not needed. Not need to remove it if already installed.



Muff'n with Tone TwEQ

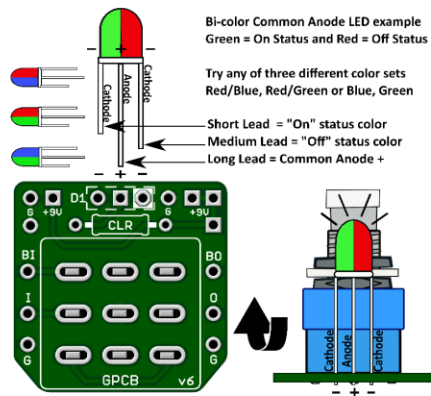
Jumper J1 must be open
Tone Pot is not installed, component between J3 and J4 can be removed or ignored.

Volume Tone TwEQ : can be installed (2 volume on the enclosure). Can be replaced by a trimmer (set and forget) or can be bypassed (use PAD 3 of volume Tone TwEQ as output to PAD J4 of Muff'n)

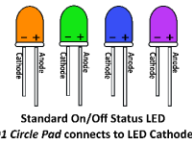
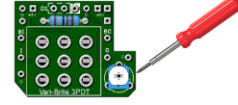




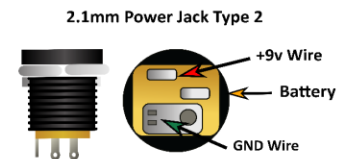
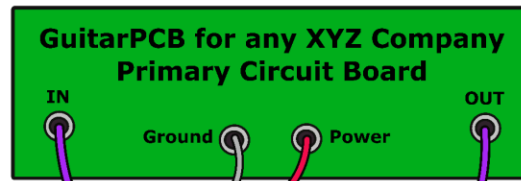
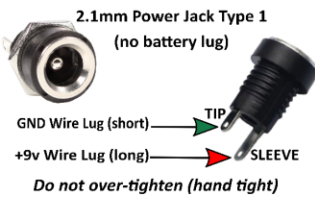
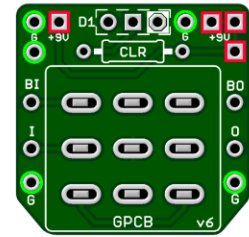
GuitarPCB Tip Sheet



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

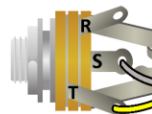


- Green = Ground Pads (5)
- Red = +9v Power Pads (4)
- D1 = LED Pads
- CLR = Current Limiting Resistor
- BI = From Main Board IN
- BO = From Main Board OUT
- I = To Jack Tip IN
- O = To Jack Tip OUT

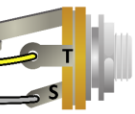


T = Tip
R = Ring
S = Sleeve

Stereo Jack (T-R-S)

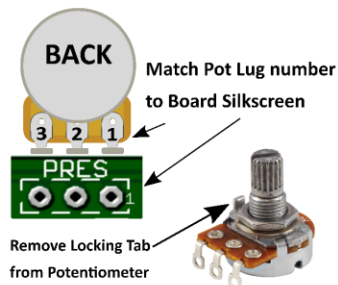


Mono Jack (T-S)

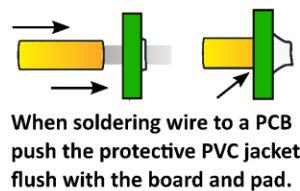
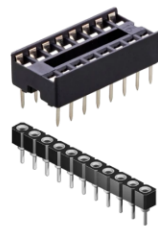


T = Tip
S = Sleeve

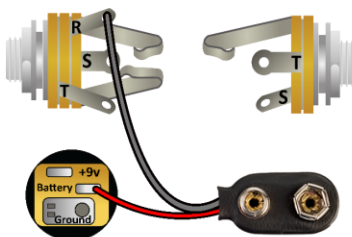
Multiple +9v and Ground Pads are convenient hookup points for additional circuits within the same enclosure. This also allows for diverse wiring schemes to suit individual needs.



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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