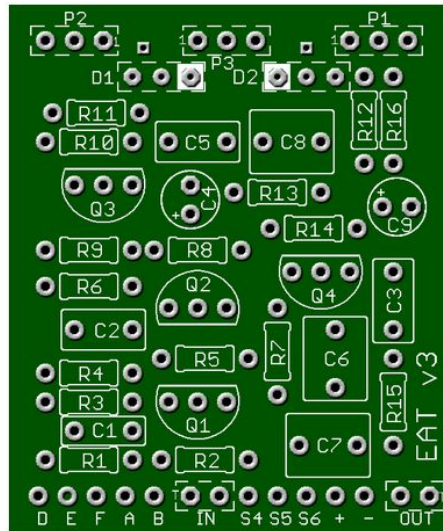


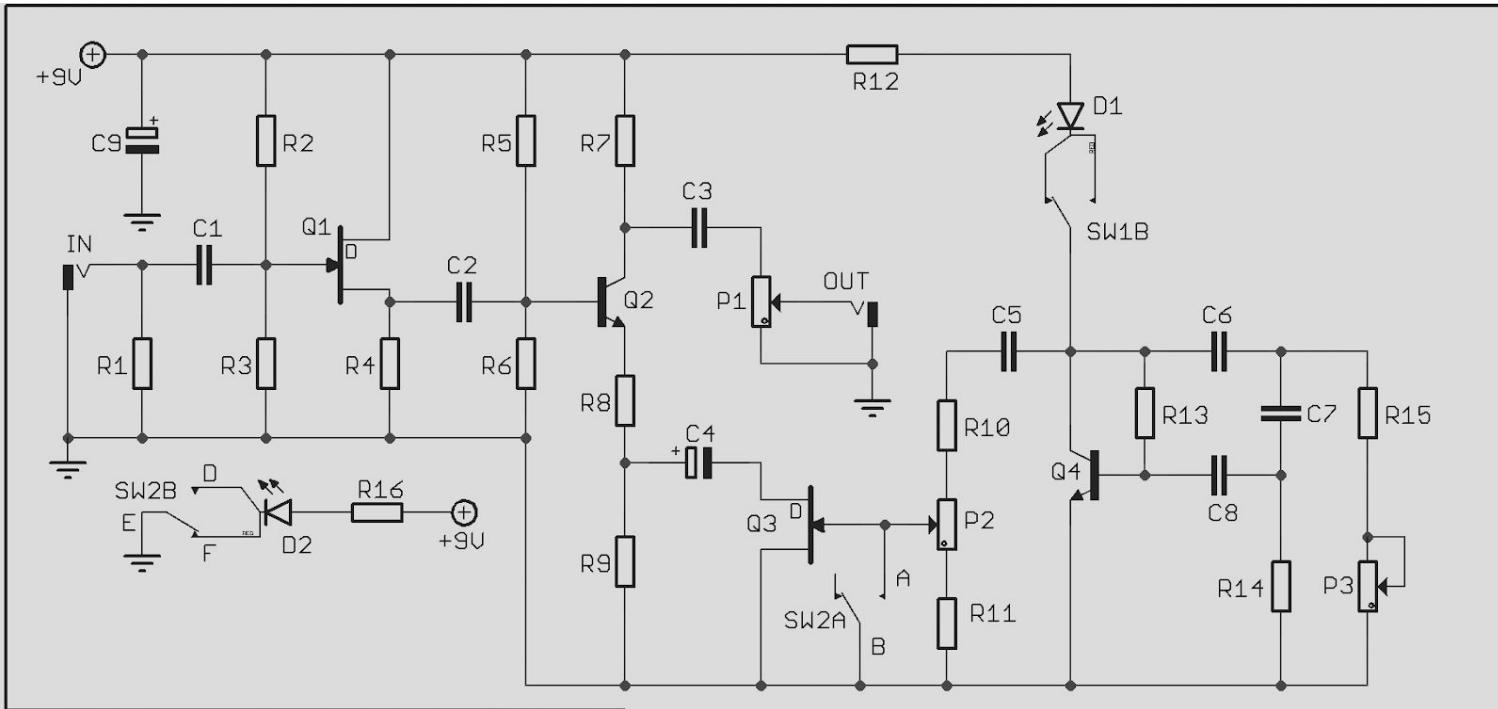
EA TREMELO v3

Our easiest and best small Tremolo build with On-board Modifications and Wiring Options. A flashing LED mod that shows the speed of the LFO has been added. You may mount this either Internal or External. Mount externally for conveniently knowing the speed before you switch it on.

A "Kill Switch" (SW 1) has been added. Closing the switch shorts the LFO leaving you with an **amazing sounding buffer** for improved Guitar Tone without the Tremolo effect. Let's face it you or any guitarist using this circuit may find having just the buffer portion extremely handy in different playing scenarios.



Board Dimensions (W x H) 1.53" x 1.83" ca. 38.7mm x 46.4mm

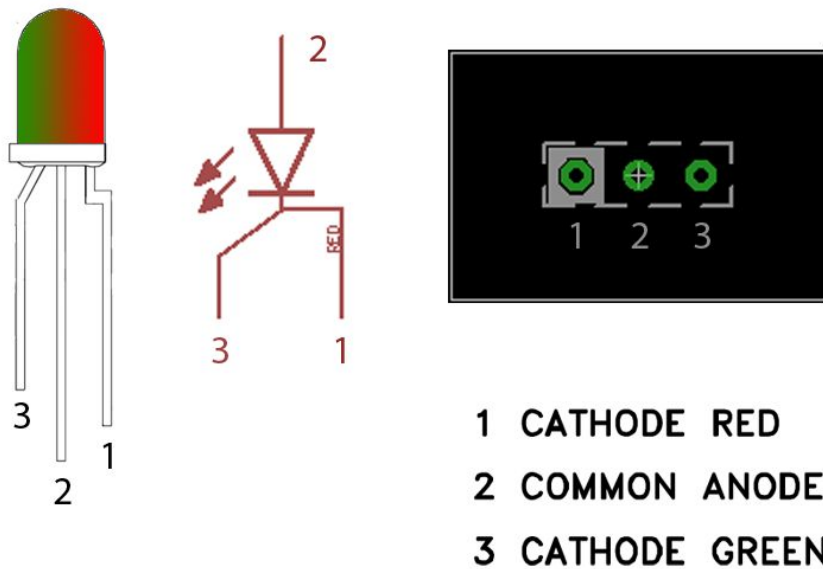


EA TREMELO v3	TONMANN	SW1B is part of the true bypass switching system SW1A & SW1C are not shown
FILE: EAT v3		SW2 is the KILL switch option
DATE: nicht gespeichert!		

R1	1M	R9	1k2	C1	47n	63V	Q1	2N5457	P1	25k Log
R2	1M	R10	120k	C2	220n	63V	Q2	2N5088	P2	250k Lin
R3	1M	R11	68k	C3	470n	63V	Q3	2N5457	P3	100k Rev Log
R4	10k	R12	6k8*	C4	22μ	16V	Q4	2N5088		
R5	560k	R13	2M2	C5	470n	63V	SW 1	3PDT Footswitch		
R6	150k	R14	15k	C6	1μ	63V	SW2	DPDT Footswitch		
R7	4k7	R15	1k	C7	1μ	63V				
R8	180R	R16	1k8*	C8	1μ	63V	D1	CA Bi-colour LED *		
				C9	47μ	16V	D2	CA Bi-colour LED *		

STATUS LED

D1 and D2 are common anode bi-colour LEDs



The diagram above shows the pin-out, schematic symbol and pad connection for a common anode LED. The pin-out for the bi-colour LED is as follows:

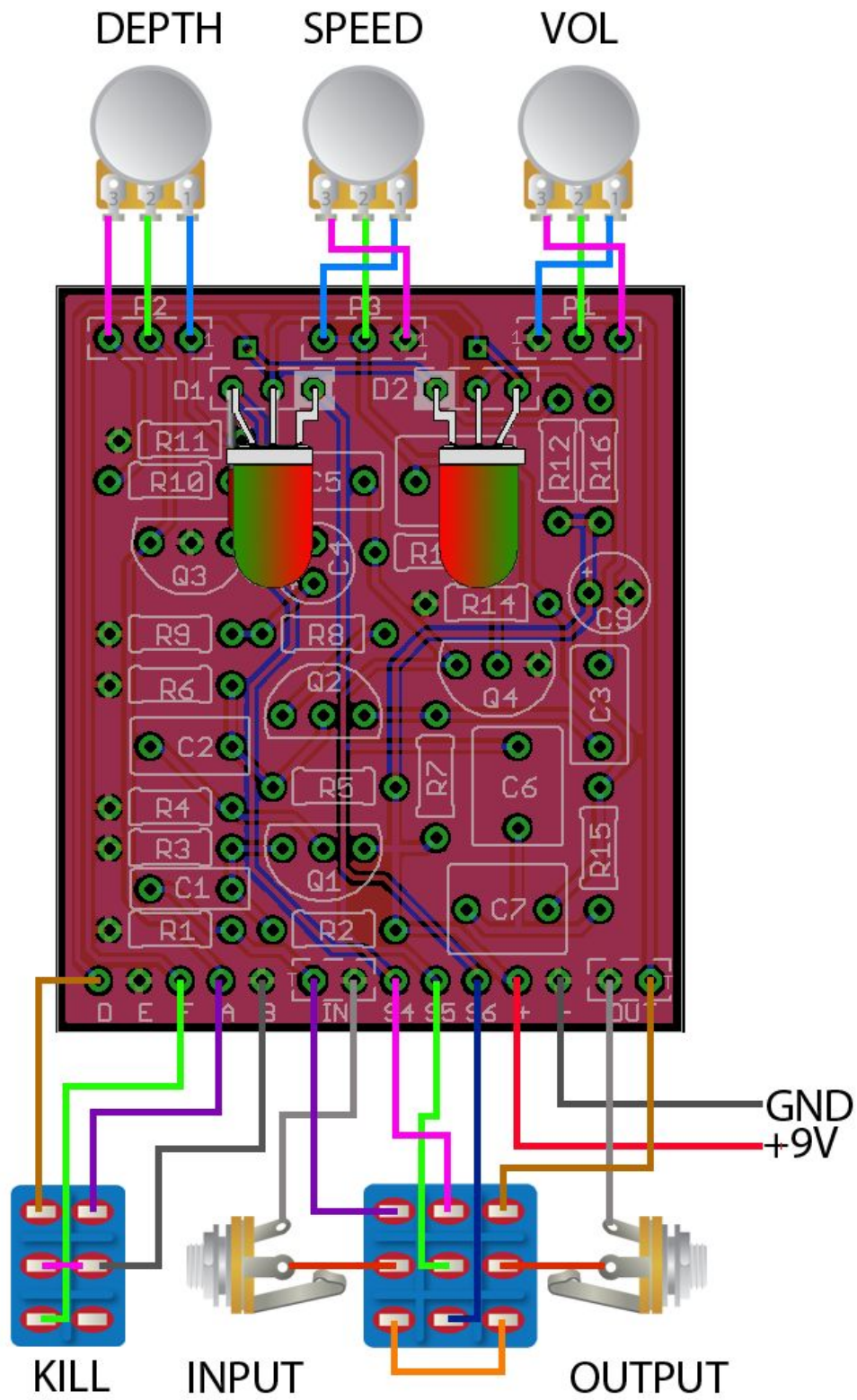
- 1st Colour Cathode 90 degree bend in the lead
- Common Anode Middle lead
- 2nd Colour Cathode 45 degree bend in the lead

The pad for lead 1 on the circuit board is marked with a white box.

When connected correctly D1 will flash red when power is applied and the circuit is in bypass mode and flash green when the circuit is in effects mode.

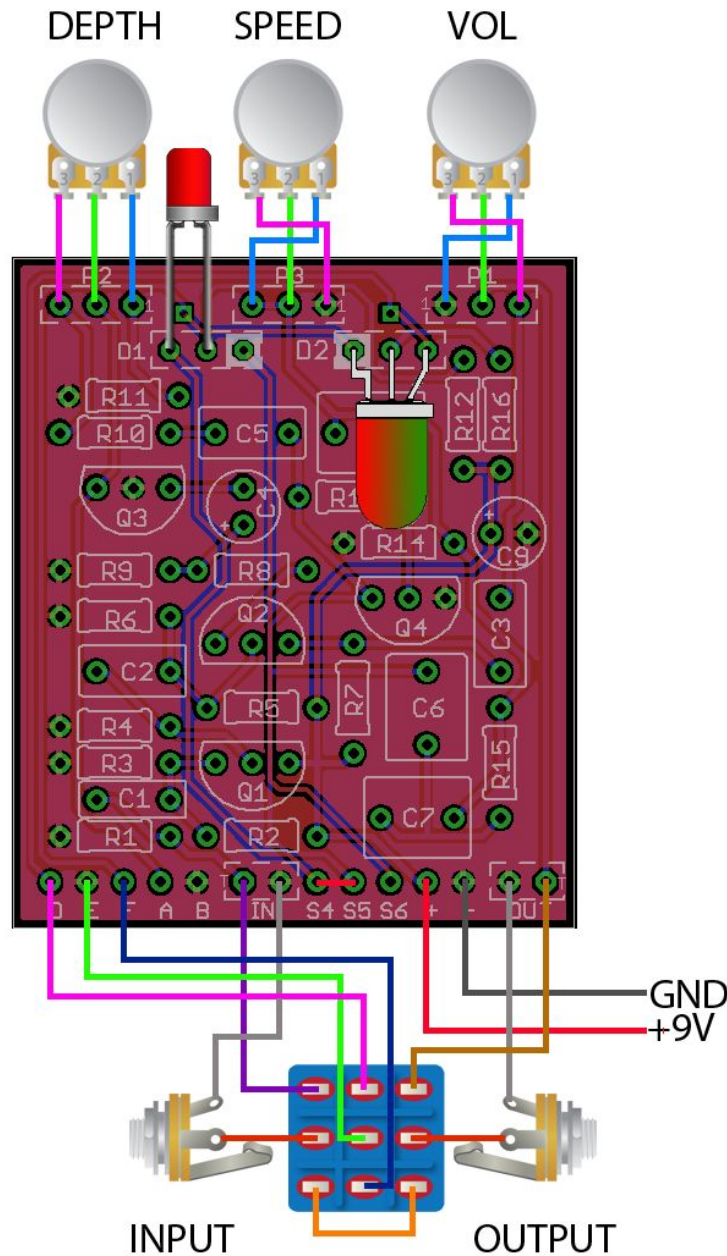
D2 will light red when the Kill Switch is not operated (open switch) and light green when the Kill Switch is operated (closed switch).

WIRING



Please note:

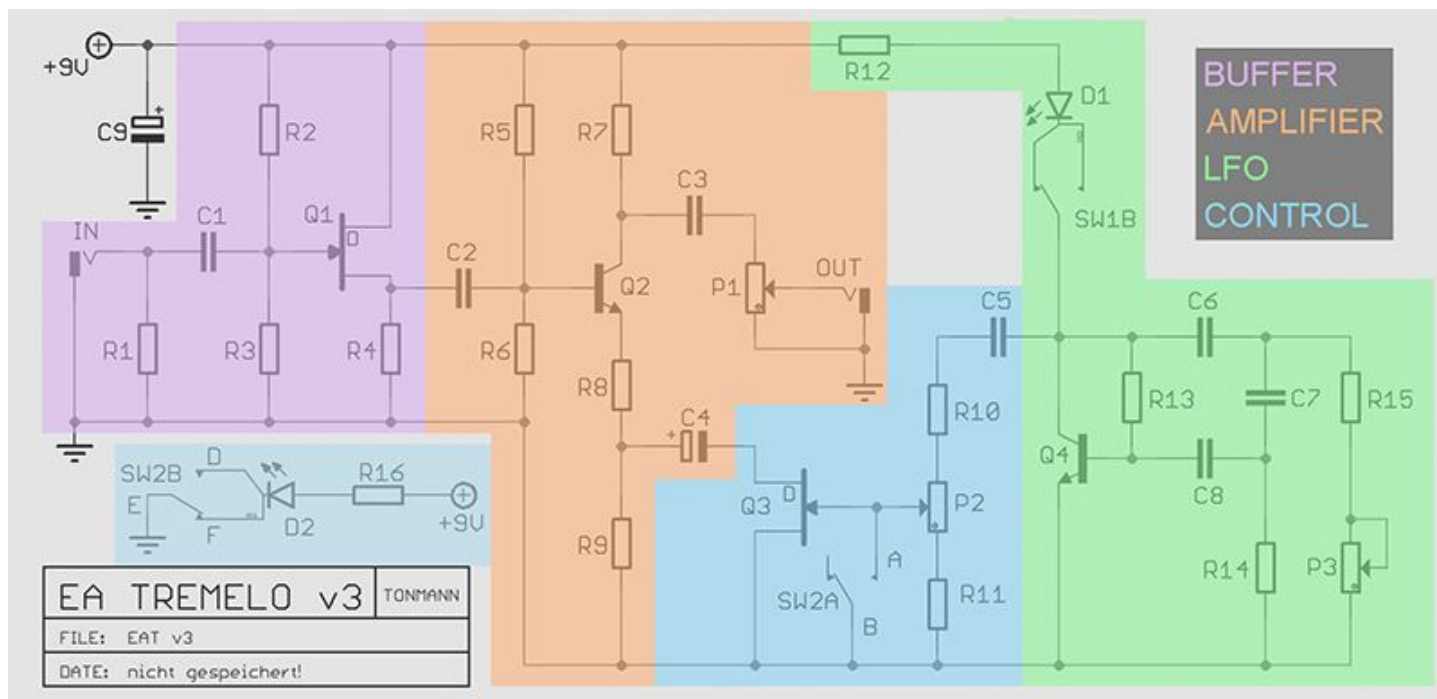
- A GuitarPCB 3PDT Wiring Board cannot be substituted for the Bypass switch.
- A 3PDT footswitch can be used instead of a DPDT footswitch for the Kill Switch.
- To save running a wire to pad E, the middle lugs of the Kill Switch are jumpered together and a wire is run to pad B.
- If you wish to use a standard LED for the Kill Switch, the anode goes to the middle pad of D2 and the cathode goes to the right (non-white) pad. The LED will light when the Kill Switch is operated (switch closed).
- If you do not wish to install a Kill Switch, pads A – E are ignored, D2 and R16 are not installed.



This method of wiring is for a circuit similar to version 2 of the EA Tremolo. It uses a standard LED for D1 and a bi-coloured LED for D2 for bypass switching status.

- It is important to add the jumper between pads S4 & S5 or the tremolo will not function.
- The standard LED for D1 is orientated anode to the middle pad and cathode to the left pad.
- D1 will continually flash red irrespective of the position of the Bypass Switch.
- R12 can be increased from 6k8 to 10k if you feel you need a stronger effect. This is related to the LFO.
- R16 must be included for the LED to light
- D2 will light red in bypass mode and green in effects mode

D2 can be replaced with a standard LED, the orientation is anode to the middle pad and cathode to the right (non-white) pad, the LED will light in effects mode.



Audio - two stages, Q1 is a buffer stage which doesn't amplify the signal but "grabs" as much guitar signal as possible from the input and sends it to the second stage, Q2. The second stage amplifies the audio signal, the amount of audio signal gain for Q2 is controlled by the JFET, Q3.

LFO - this produces a low frequency alternating (almost sine wave) signal at the collector of Q4. If the LED blinks in time with the Speed control you can safely assume that the LFO section is functioning properly.

Control - this takes the signal from the collector of Q4, removes the DC bias voltage of Q4 (via C5) and then reduces the amplitude of the LFO signal (R10, P2 & R11) and feeds the reduced signal to the gate of Q3. Q3 lies at the heart of the tremolo effect. With the drain connected to C4 and the source connected to ground Q3 is configured as a variable resistor (the resistance between the drain and the source). The drain-source resistance is controlled by the voltage on the gate which is supplied from the LFO section.

[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

If they do not have a KIT listed send them a note asking if they can help you out.



This document, PCB Artwork and Schematic Artwork © GuitarPCB.com. Schematic, PCB and this document by Bruce R. and Barry. All copyrights, trademarks, and artworks remain the property of their owners. Distribution of this document is prohibited without written consent from GuitarPCB.com. GuitarPCB.com claims no rights or affiliation to those names or owners.