

# Phase Inverting Buffer

Signal IN or OUT of phase  
at the flip of a switch



# Important notes

## **If you're using any of our footswitch daughterboards, DOWNLOAD THE DAUGHTERBOARD DOCUMENT**

- Download and read the appropriate build document for the daughterboard as well as this one BEFORE you start.

## **POWER SUPPLY**

Unless otherwise stated in this document this circuit is designed to be powered with 9V DC.

## **COMPONENT SPECS**

Unless otherwise stated in this document:

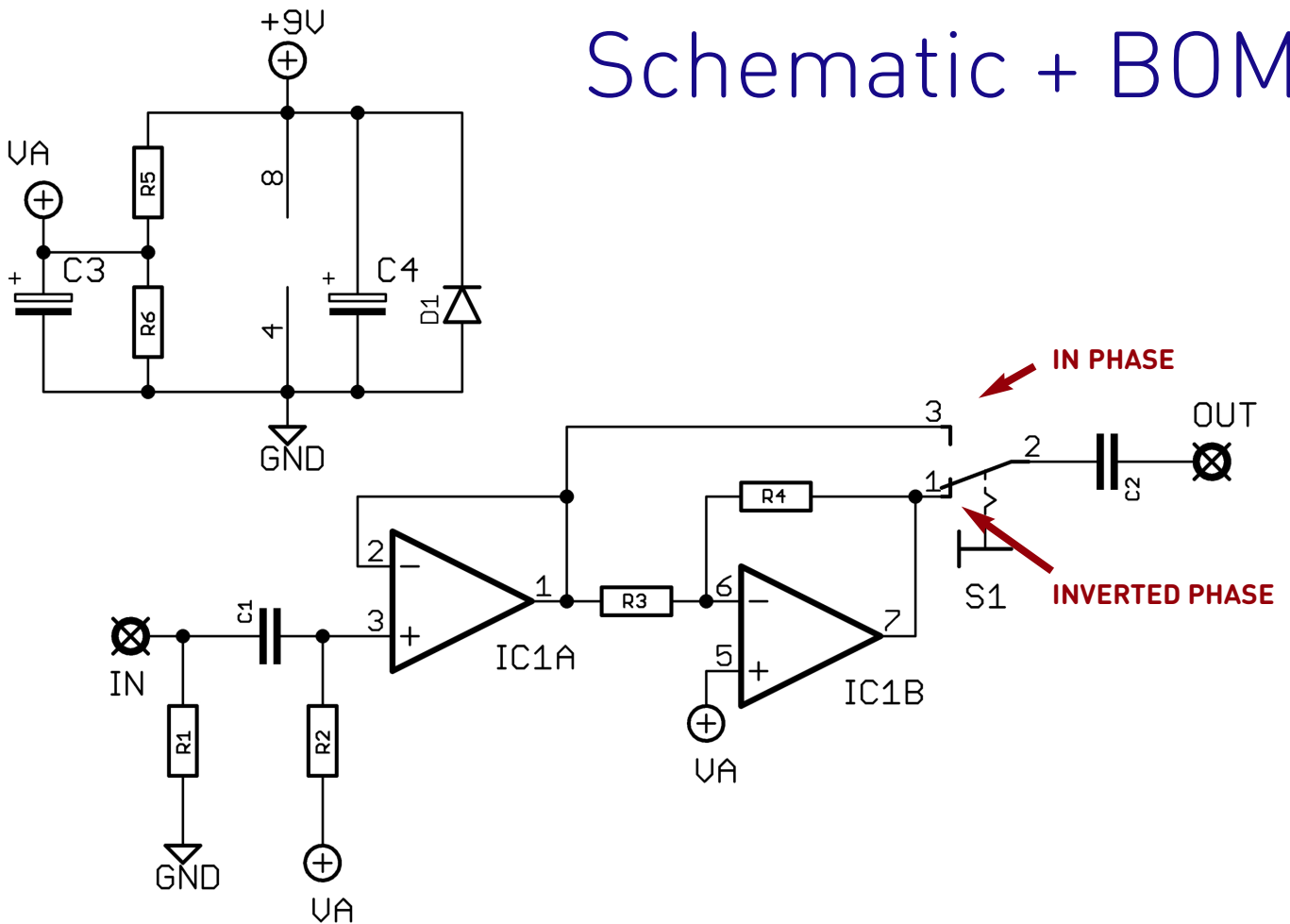
- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

## **LAYOUT CONVENTIONS**

Unless otherwise stated in this document, the following are used:

- **Electrolytic capacitors:**  
Long leg (anode) to square pad.
- **Diodes:**  
Striped leg (cathode) to square pad.
- **ICs:**  
Square pad indicates pin 1.

# Schematic + BOM



R1 1M

R2 1M

R3 10K

R4 10K

R5 10K

R6 10K

C1 100n

C2 100n

C3 22u elec

C4 22u elec

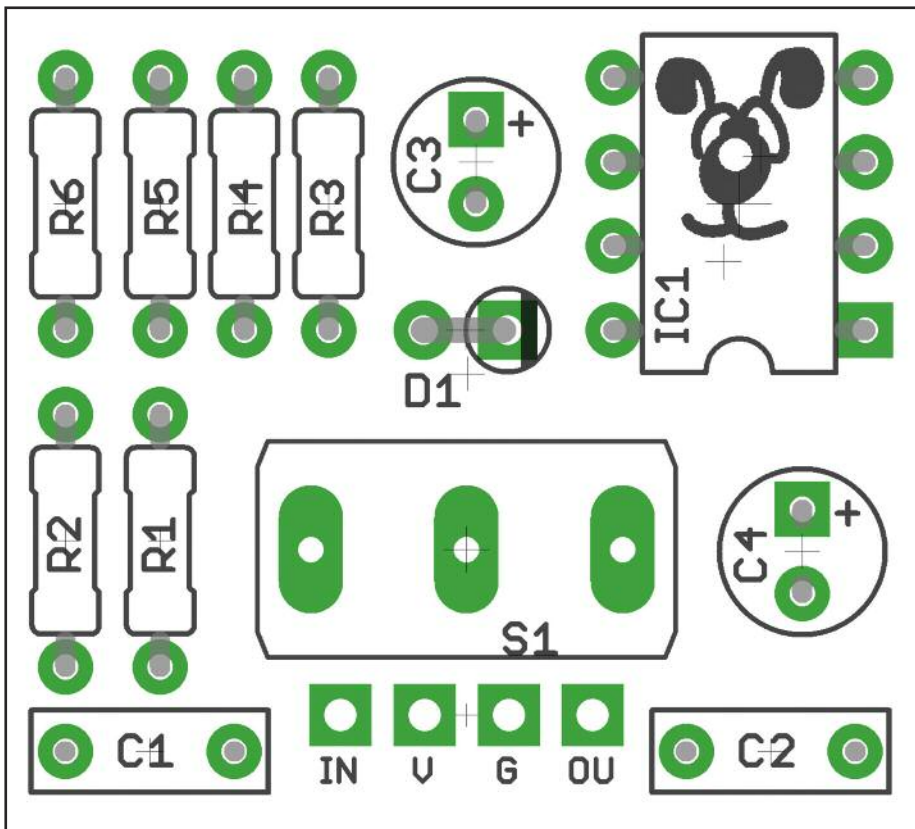
D1 1N4001

IC1 TL072

S1 SPDT ON-ON

Based on the schematic published by Parasitstudio.

We've added C2 because we like belt and braces capacitors. It's not really necessary, and can be left out if you're following the wiring diagram for two separate output jacks shown later in this document.

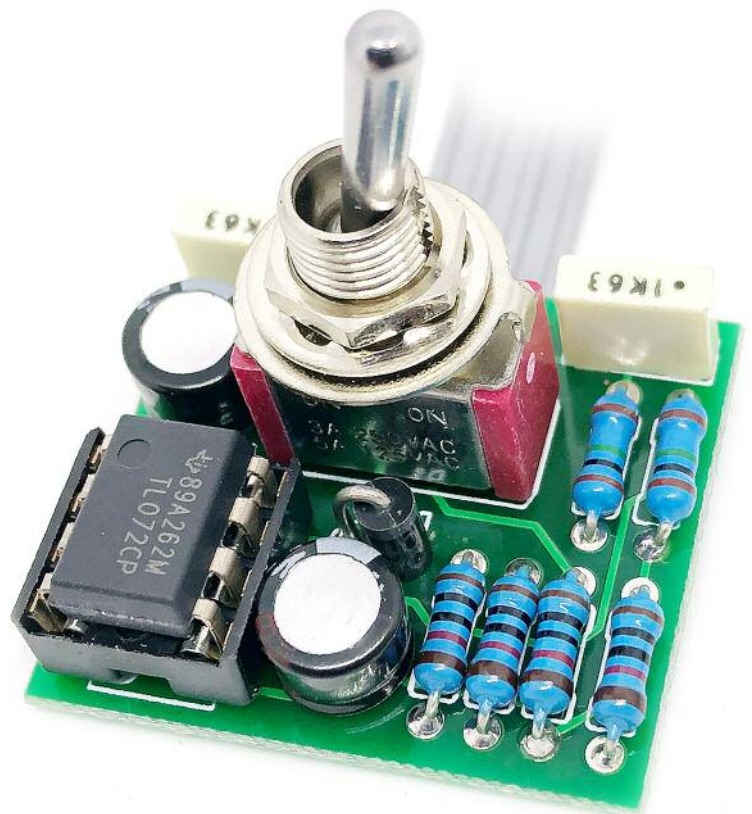


PCB layout ©2019 Pedal Parts Ltd.

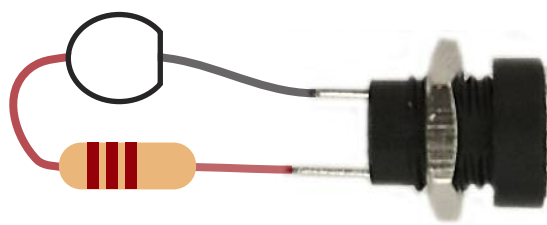
Be very careful when soldering D1. Diodes are very sensitive to heat. You should use some kind of heat sink (crocodile clip or reverse action tweezers) on each leg as you solder them. Keep exposure to heat to a minimum (under 2 seconds). Same goes for the IC if you aren't using a socket.

The board has been designed to take a toggle switch to flip between IN and OUT of phase signals. This also gives you a solid mounting in your enclosure. If you aren't using a switch you'll have to attach the PCB to the enclosure a different way - double sided sticky foam, velcro, etc.

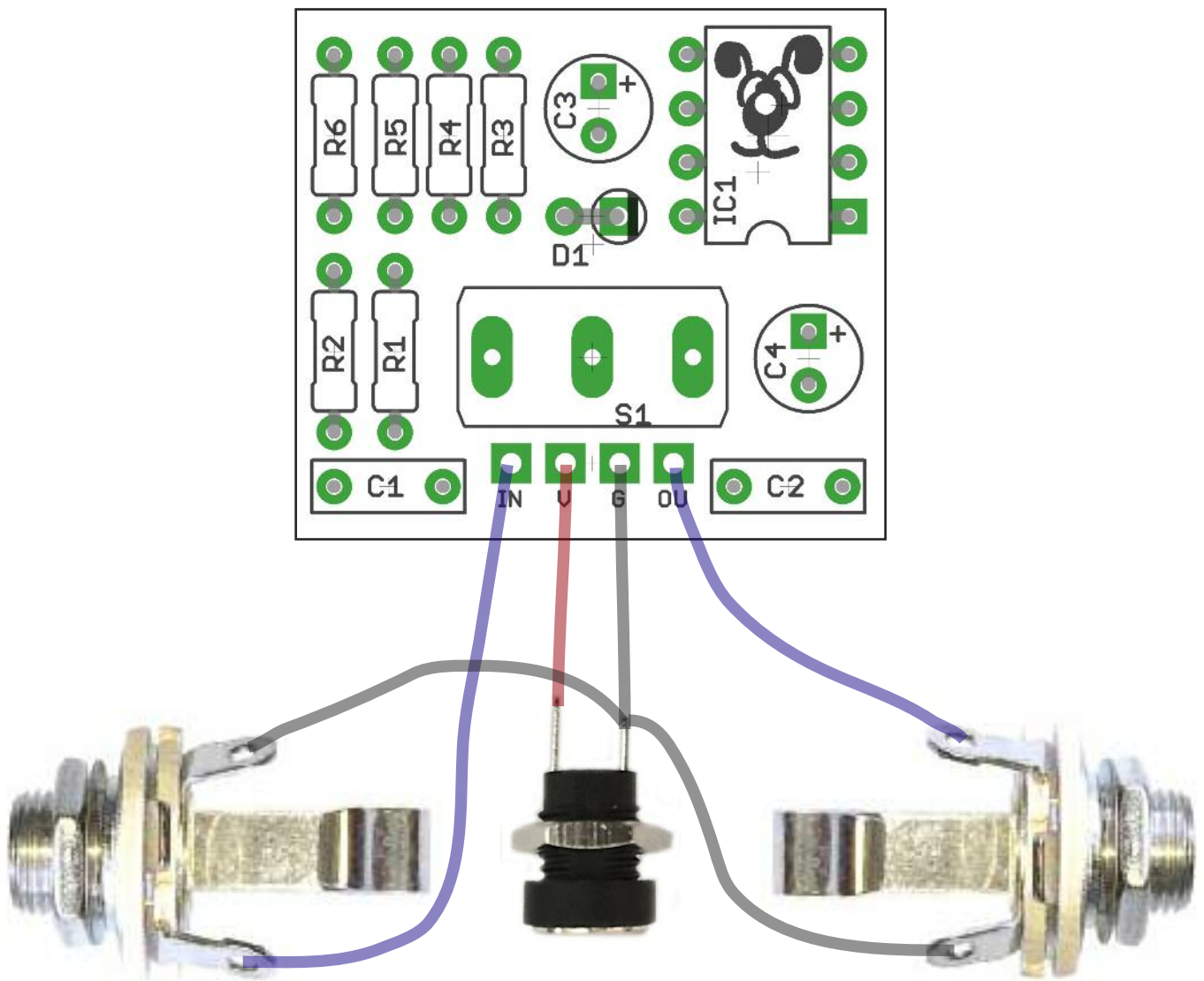
The switch in the image shows the IN PHASE position. >>>



If you want to add an ON indicator LED it needs to be wired offboard from the DC socket, with a current limiting resistor inline - we recommend 2K2.

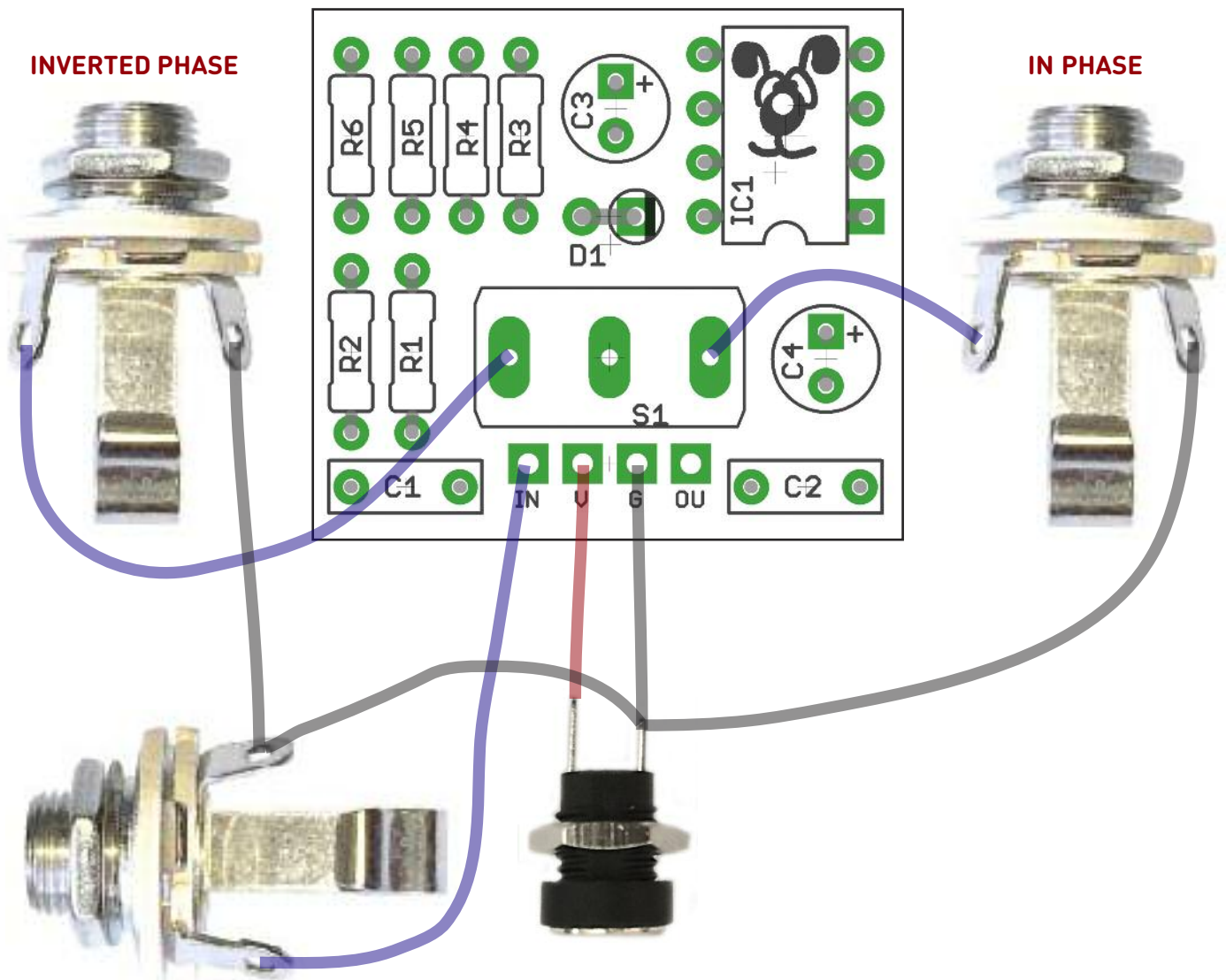


# Wire it up - Switched Output



Single output jack with signal phase determined by the toggle switch position.

# Wire it up - Dual Outputs



Dedicated output jacks for in and out of phase.

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