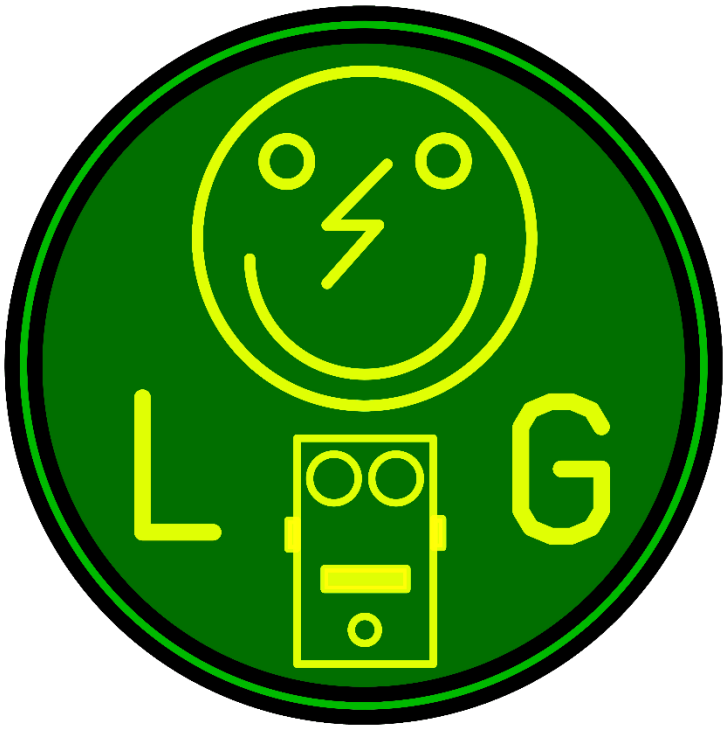
# PowerInverter

# Building instructions

# V1.0




# Table of contents



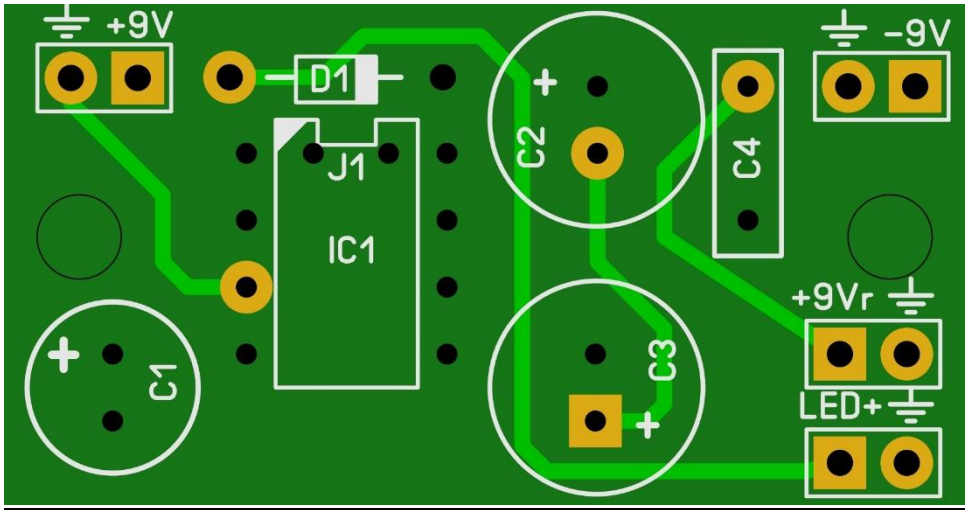
Read this entire manual thoroughly before you start building!

Last update: 26-10-2016

# Components

| Name | Value | Comment |
|---|---|---|
| **C1** | 10u | Electrolytic |
| **C2** | 100u | Electrolytic |
| **C3** | 47u | Electrolytic |
| **C4** | 100n | MKT/Wima |
| **D1** | 1N5817 | |
| **IC1** | ICL7660S/LT1504 | |

# PCB layout




Dimensions: 36,5 mm x 19mm

1.44 inch x 0,75 inch

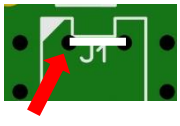
Besides the components mentioned in the table, you will need:

- **2,1mm DC jack** (isolated).
- **22 gage stranded hook-up wire (red and black).**

# General building tips

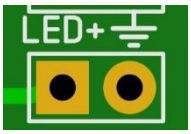
It is advised to socket the voltage converter **IC1** using a DIP-8 socket so it can be easily replaced in case it breaks. It is not advised to power the board with a battery as this may result in weird behavior as the battery's Voltage drops as it gets empty (sag). The board can be used with either an ICL7660s or a LT1504. A LT1054 can deliver more current (100mA), but the 7660s is cheaper.

7660s: connect **J1** (eg using a spare piece of diode leg left after cutting it to size)

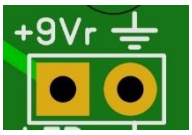



LT1054, do not connect **J1**!

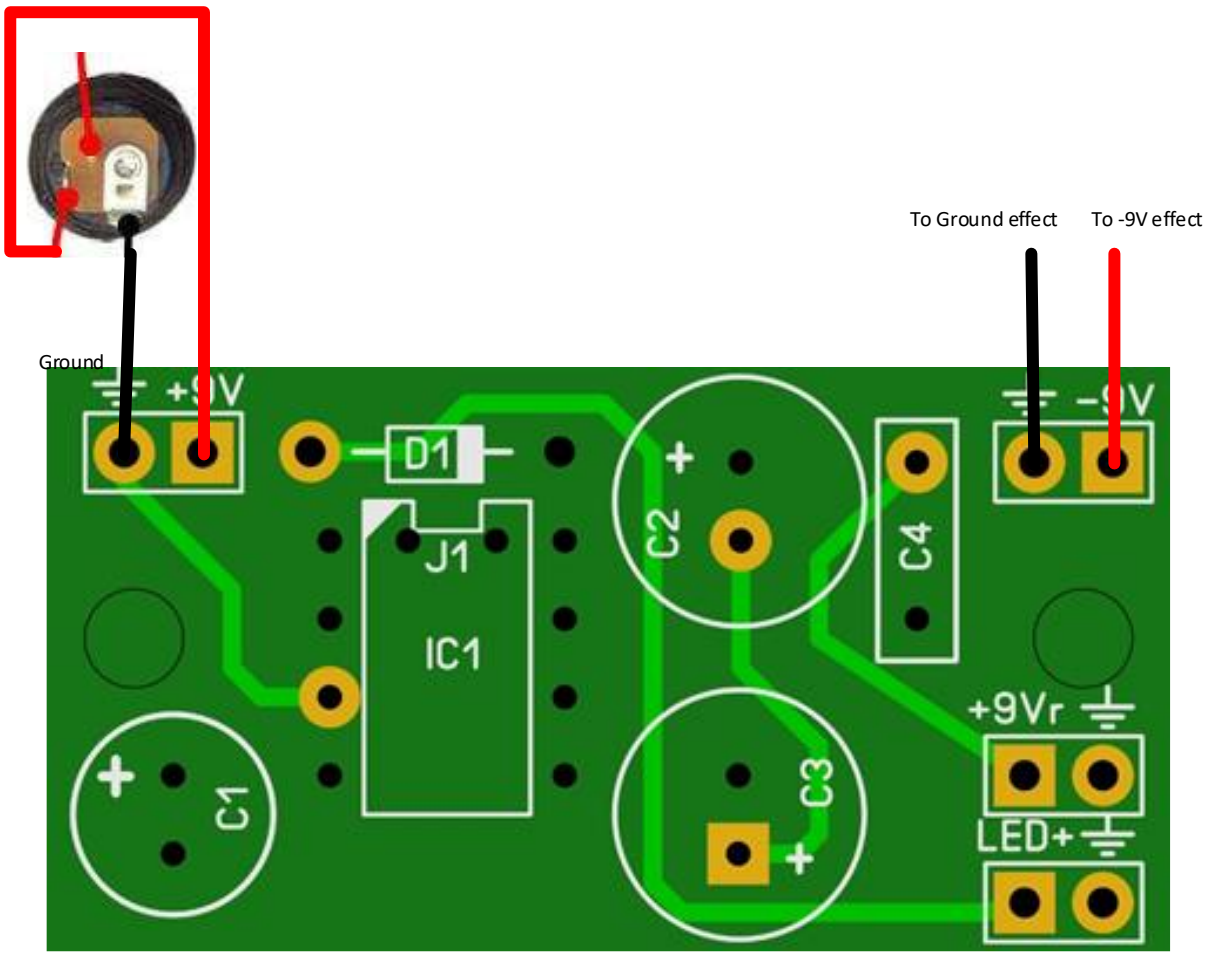
the PowerInverter enables you to feed your effects by -9V DC, while still being able to be used in a daisy chain with other +9V DC effects. If you have a LED in your build which can only take +9V then you can connect it to the **LED+** pad.




There is also a filtered +9V DC output marked +9Vr.




## Off board wiring



# Troubleshooting

All PCB's have been 100% factory e-tested and out of every batch I receive I build an effect to double check, so there should not be a connection problem on the PCB itself.

The board is not working (at all), what now?

- Check if your 9V is plugged in correctly (and/or soldered correctly on the board).
- Check that you oriented the capacitors, IC's ,transistors and diodes the right way. SMF, MKT capacitors and resistors do not need to be oriented.
- Check if you used the correct values of the components.
- Double and triple check your soldering! A loose or cold solder can be really bad for your board.
- Replace the IC, it might be defective. Before doing that first unplug the 9V and wait 5 seconds.
- Check that you have good/high grade components. A lot of Chinese sourced parts are fakes (especially high end op-amps, vintage diodes and transistors) so be careful that you source your parts from reliable suppliers.

# Schematic