

# Voltage Inverter: Build Document

Carcharias Effects

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## 1. About This Circuit

A good **Voltage Inverter Daughterboard PCB** is a great utility for any pedal builder or problem-solver to have in their arsenal.

Have you ever finished building that [Fuzz Face](#) or [Tonebender](#) circuit with carefully sourced, amazing PNP Germanium transistors, only to realize that your pedal will not be hooking up to the same daisy chain as your other negative-center pedals?

What's that, you say? Your isolated power supply doesn't have a center-positive feature? Or maybe you've already used up the only one of those little red cables that came with the power supply?

I mean, sure, you could just forego a 9V jack altogether and simply add a **battery snap** to your build, but that type of thing will give you dirty looks from tree-huggers like me. Go ahead, try it. **I will be judging your foolish, wasteful, environmentally irresponsible ways all the from here.** You go ahead and see where that battery snap gets you.

**Or** just forget all this entirely. Desolder all those polar components and resolder them in reverse, head back to wherever you sourced those PNP transistors from and start looking for some decent NPN ones. But that changes the tone you intended entirely—which is not necessarily a bad thing; it just wasn't what you planned.

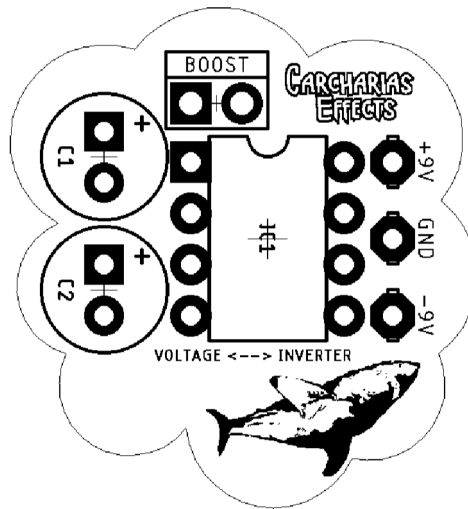
**Or** you could do the sensible thing, which would be to install this tiny Voltage Inverter Daughterboard PCB. Now all of a sudden, your center-positive pedal takes center-negative power. Now you are daisy-chaining like Mother Nature intended. Now you are running on the power of intelligent engineering in a teeny-weeny package.

Now do you see how great of a solution a **voltage inverter daughterboard PCB** really could be? Make no compromises on your tone, your PCB's structural integrity, your pedalboard, or THE ENVIRONMENT, PEOPLE!

Note that this is the price only for the circuit board. You will need to source your own parts.

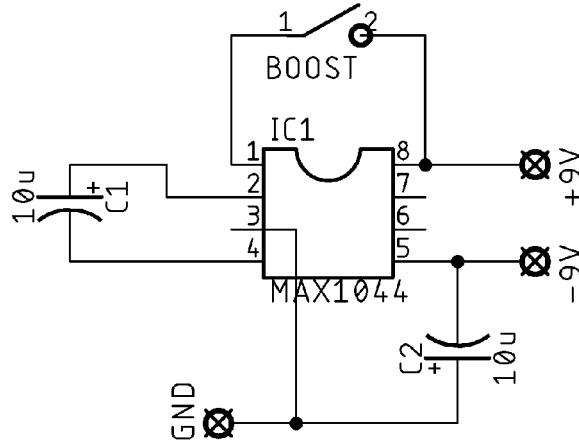
## 2. Circuit Board

The following is a screen capture of the printed circuit board (PCB):



## 3. Schematic

The following is a screen capture of this circuit's schematic, which can be used for reference when debugging:



## 4. Bill of Materials

You will need the following components to complete your build:

Qty	Value	Parts	Description
2	10u	C1, C2	Capacitor - Electrolytic
1	MAX1044	IC1	Voltage Converter

## 5. Build Notes

There is not too much to say about this circuit, as it is pretty straightforward. The IC can be either a MAX1044 or a ICL7660SCPAZ. I've included the **Boost** pads because some ICs (I believe the 7660CPAZ... note the missing "S") do not require this connection, so it's good to be able to disconnect it. I've tried it with both the MAX1044 and ICL7660SCPAZ that I've ordered from Tayda, and in order for there to be no oscillating in the resultant circuit I was trying it with, I needed to **jumper the boost pads**. Results may vary for you, but this addition to the board will at least let you try either way.

## Terms of Use

The printed circuit board (PCB) discussed herein may be used for DIY purposes, such as personal builds or small commercial operations. This PCB may not be resold as part of a commercial kit. Resale from peer to peer is approved.

I do not claim any cloned circuit (whether partially or entirely) as the intellectual property of Carcharias Effects, nor am I in the business of intentionally violating any copyrights. Unless otherwise noted, many of the circuits available on [carchariaseffects.com](http://carchariaseffects.com) are based on schematics that represent the works of many hardworking people who came before me, who have designed many wondrous and unique electronics for musicians. I am just one guy with a hobby and love for these electronics, and designing and selling these PCB's is simply one way that I can ensure that my hobby continues to be self-sustaining.

## Change Log

- **Rev1 (August 19, 2020):** First draft of this document, includes all standard features. This document corresponds to **PCB rev1.0**.

## Contact

If you encounter any problems or issues with the PCB, or have any questions or comments, feel free to reach out to me anytime. I will try my best to be as responsive as possible. Here are the best ways to reach me:

- Instagram/Facebook (DM): **Carcharias.Effects**
- Email: [carcharias.effects@gmail.com](mailto:carcharias.effects@gmail.com)
- Web: [www.carchariaseffects.com/contact](http://www.carchariaseffects.com/contact)

I **love** seeing pictures of other peoples' builds, so feel free to tag me (**carcharias.effects**) on Instagram or Facebook.

Best of luck and happy building!