

# Wiring to the HPF-Pre boards

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4-7-2024

## Overview

This document (under construction) describes the wiring of the HPF-Pre boards. It's intended for those who would like to put an HPF-Pre into a custom enclosure.

In the future, this is also where I'll discuss Mods.

## Series 2M

**Red and black** go to the 9-V battery snap

**Pin 1 (Green)** = Ground

**Pin 2 (Orange)** = Negative terminal of battery snap

**Pin 3 (Brown)** = Output of the circuit

**Pin 4 (Blue)** = Input to the circuit

Series 2M does not support a DC power jack, because the output of typical adapters is not clean enough, and power supply noise is coupled to the signal path of the audio circuit. The battery snap connected directly to the circuit board. The negative terminal of the battery passes directly through to the Battery terminal (orange wire) which can be connected to the ring terminal of the output connector. When a 2-conductor plug is inserted into this connector, it connects the Ring and Sleeve (ground) terminals together, and completes the battery circuit.



Figure 1: image.png

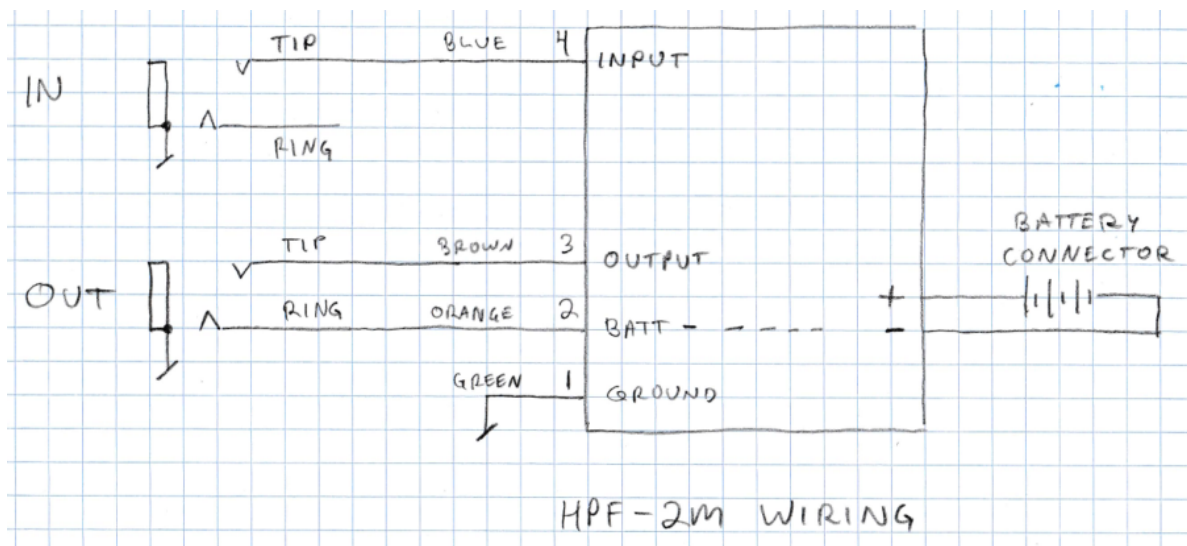


Figure 2: image.png

### Series 3

**Pin 1 (Green)** = Ground

**Pin 2 (Orange)** = Power input, nominally 9 V

**Pin 3 (Brown)** = Output of the circuit

**Pin 4 (Blue)** = Input to the circuit

Series 3 is a bit more complicated because it supports a power jack. This wiring scheme is as old as effects pedals.

With nothing plugged into the power jack, the positive terminal of the battery is connected directly to the power input of the circuit board. The negative terminal is connected to the ring terminal of the output jack. When a 2-conductor plug is inserted into the output jack, it completes the battery circuit, just like the Series 2M circuit.

For custom wiring, you can omit the power jack by connecting the orange wire directly to the positive terminal of the battery snap.

### Series 3 "Mini"

**Pin 1 (Green)** = Ground

**Pin 2 (Orange)** = Power input, nominally 9 V

**Pin 3 (Brown)** = Output of the circuit

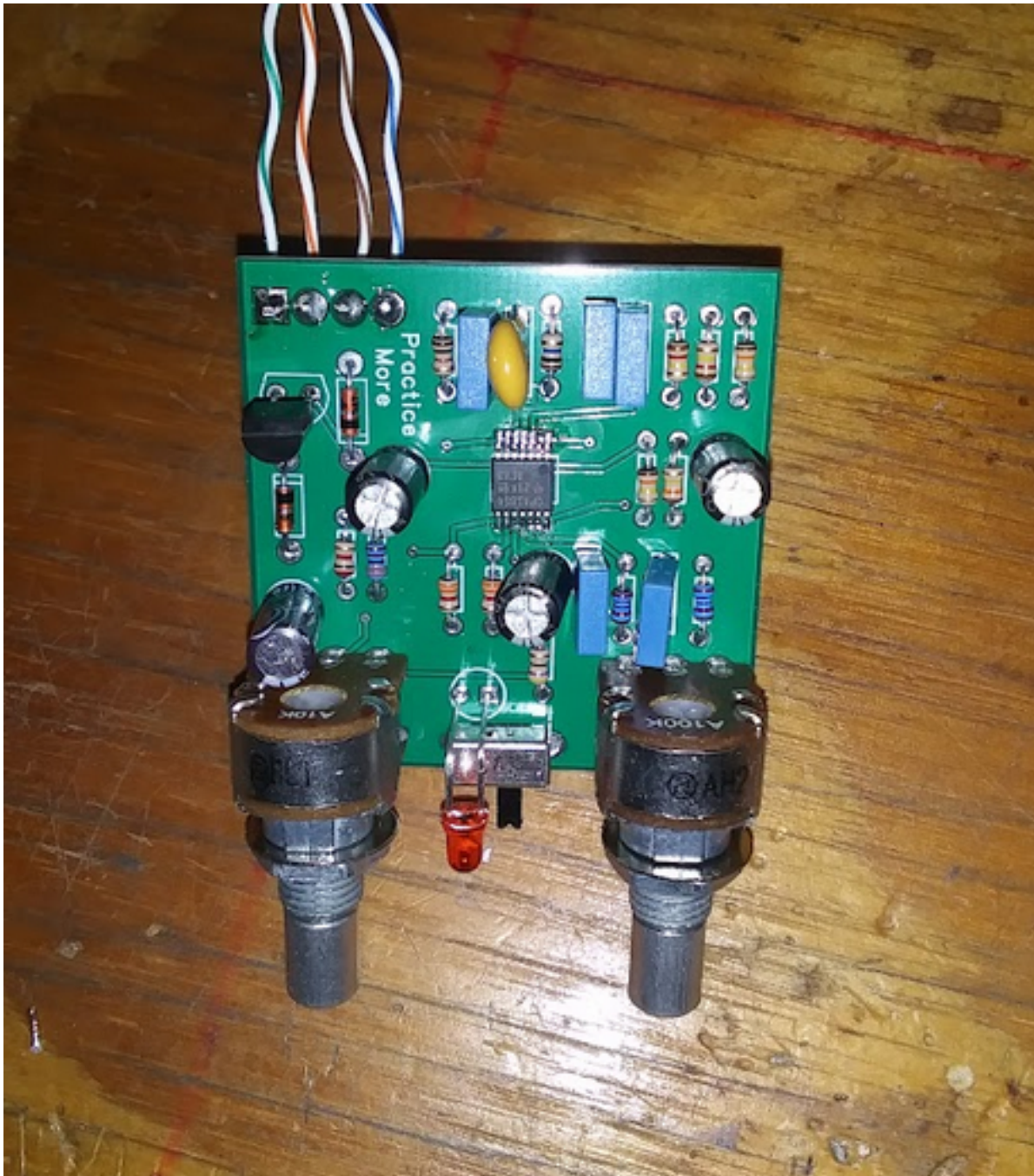


Figure 3: image.png



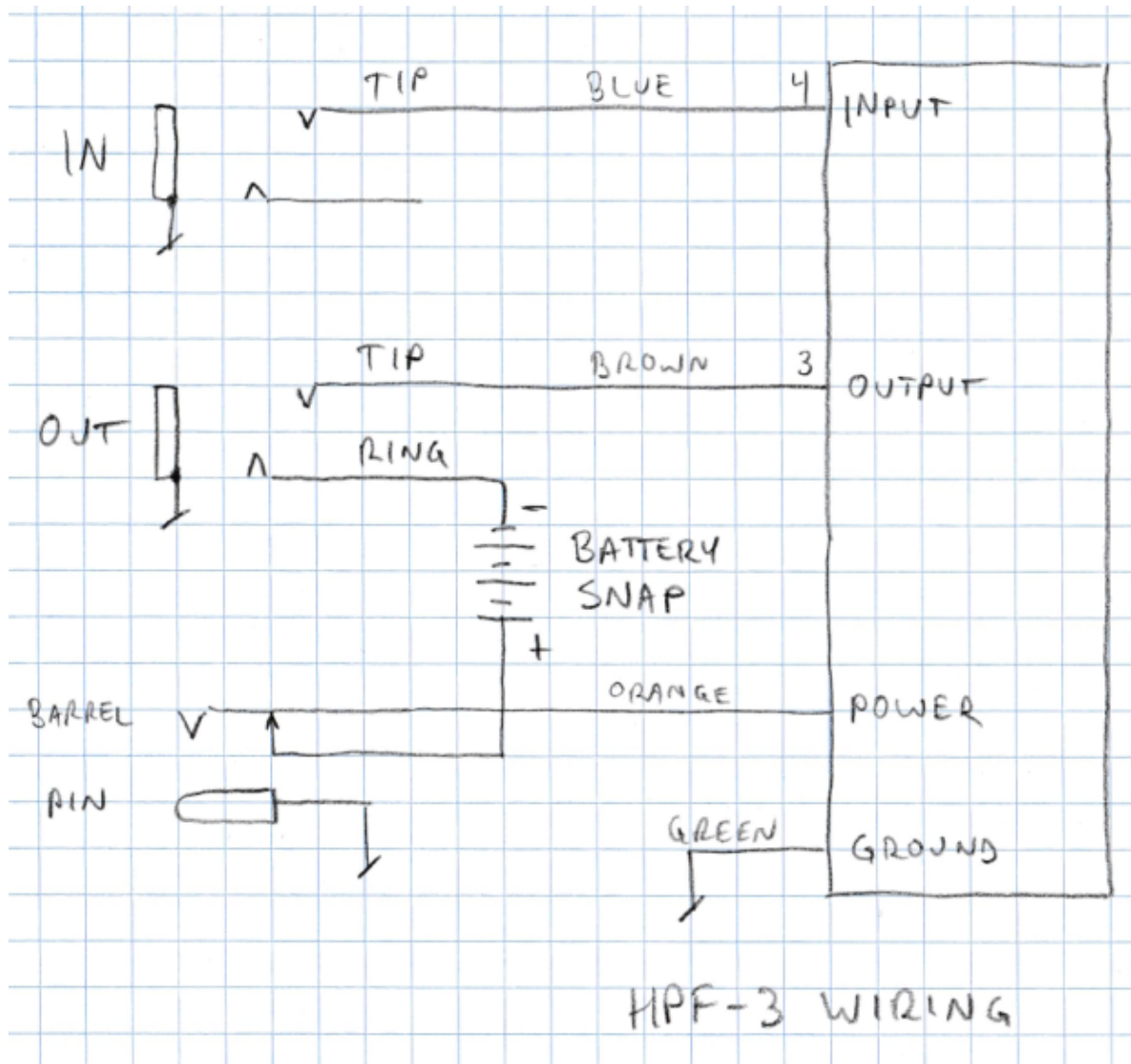


Figure 4: image.png

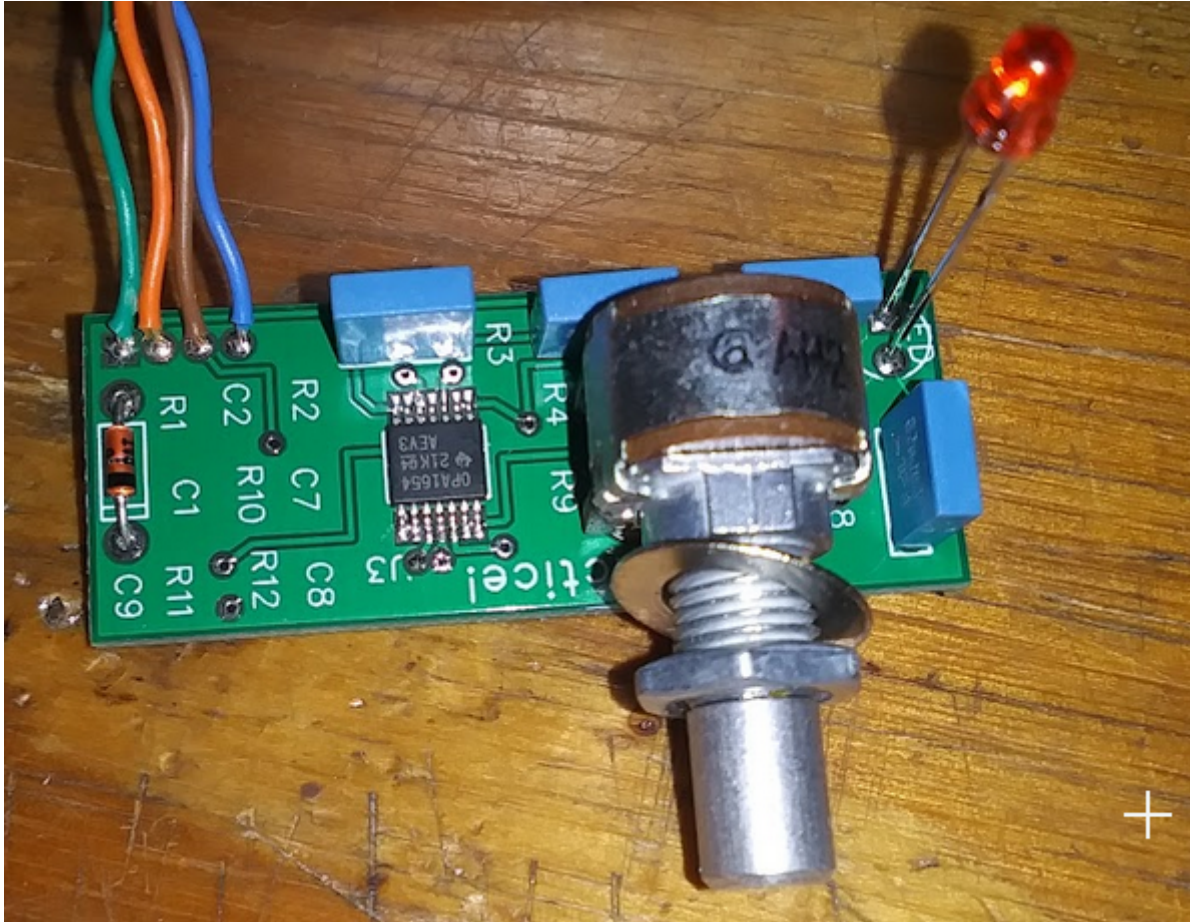


Figure 5: image.png

Pin 4 (Blue) = Input to the circuit

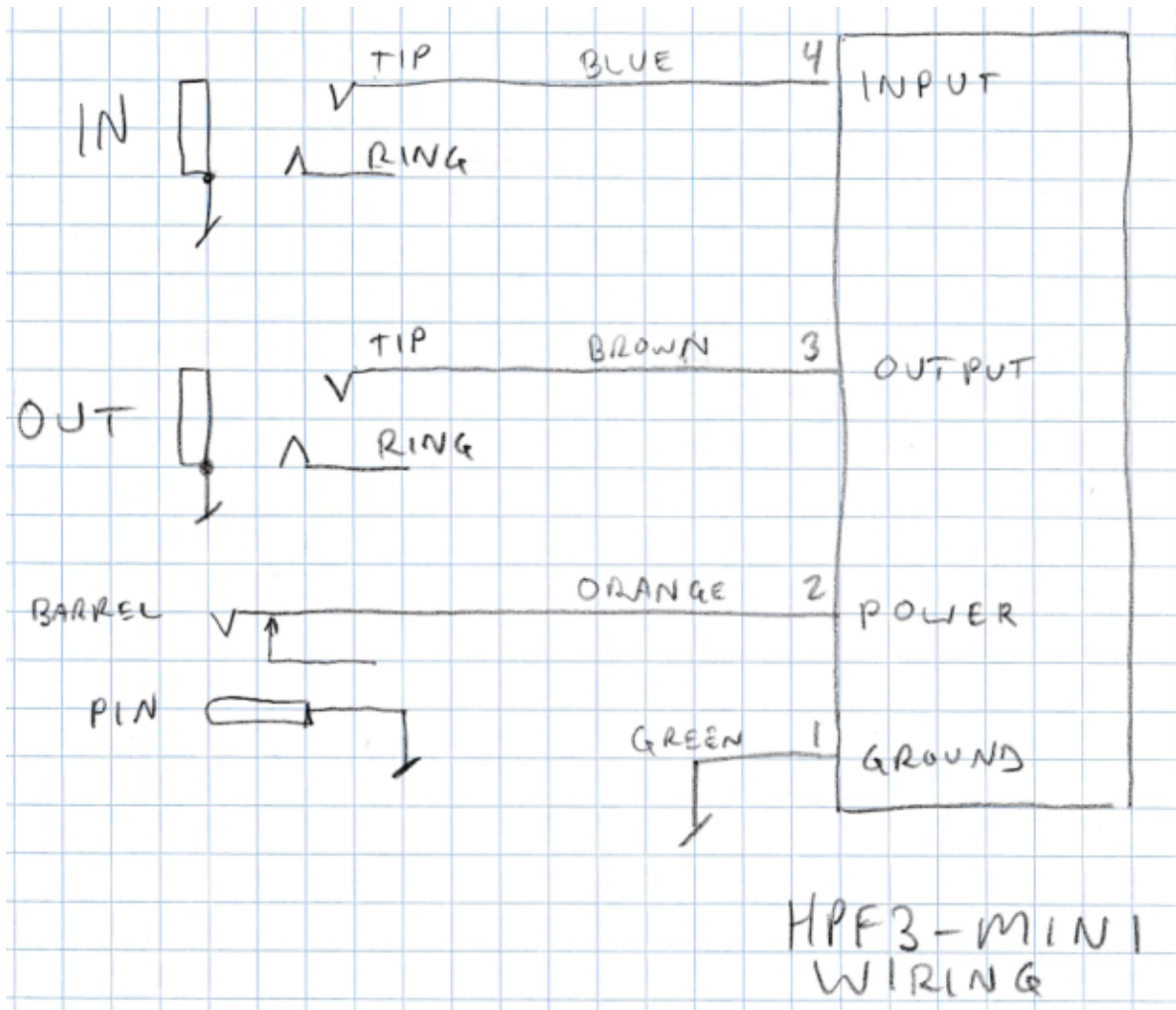


Figure 6: image.png

The Mini is the simplest because it only supports external power.

### Possible modifications

#### The op amp chip

The Series 3 circuit uses a very high performance op amp chip, designed for high performance audio circuits, the OPA1654. I've used it since it was introduced by Burr-Brown, now Texas

Instruments. Its only drawback is that it draws a fair amount of current, 2 mA per channel or 8 mA for the entire chip.