

PROJECT NAME
DRYAD

BASED ON
Catalinbread Silver Kiss Mk. 2

EFFECT TYPE
Transparent overdrive

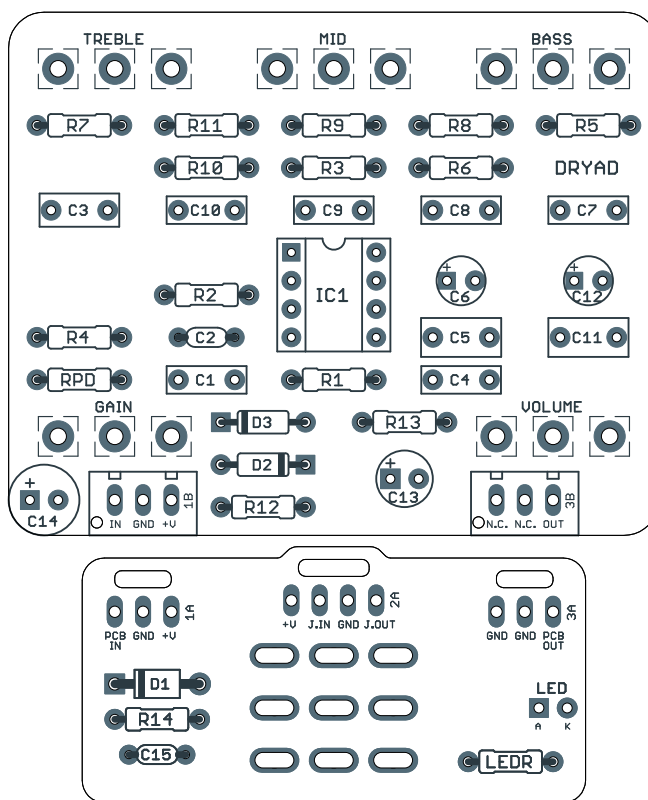
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DOCUMENT VERSION
1.0.0 (2023-11-24)

aion
DIY GUITAR EFFECTS

PROJECT SUMMARY

A stripped-down Tube Screamer circuit with an active 3-band EQ which provides amp-like control over the tone.



Actual size is 2.3" x 1.86" (main board) and 2.3" x 0.86" (bypass board).

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INTRODUCTION

The Dryad Transparent Overdrive is based on the Catalinbread Silver Kiss, originally released in 2007 and [traced by Aion FX in 2023](#). There were at least five different versions of the circuit, but this project is based on the Mk. 2, which was the most widely available.

The Silver Kiss is a simplified Tube Screamer-style overdrive, not dissimilar in concept to the Jack Orman [Son of Screamer](#) or the [Lovepedal Eternity](#). The major departure is the addition of an active 3-band tone control, which offers a significant amount of tone-shaping.

As with the [Timmy](#), the Silver Kiss doesn't color the tone with a lot of its own character, instead bringing out the best of your rig but allowing for a high degree of control before it hits the amp.

The Dryad is a direct adaptation of the Silver Kiss Mk. 2 based on our trace.

USAGE

The Dryad has the following controls:

- **Treble**, **Middle** and **Bass** form an active 3-band tone control for flexible tone shaping.
- **Gain** controls the amount of gain in the op-amp clipping stage.
- **Volume** controls the overall output of the effect.

PARTS LIST

This parts list is also available in a spreadsheet format which can be imported directly into Mouser for easy parts ordering. Mouser doesn't carry all the parts—notably potentiometers—so the second tab lists all the non-Mouser parts as well as sources for each.

[View parts list spreadsheet](#) →

PART	VALUE	TYPE	NOTES
R1	1M	Metal film resistor, 1/4W	
R2	1k	Metal film resistor, 1/4W	
R3	1k	Metal film resistor, 1/4W	
R4	2k2	Metal film resistor, 1/4W	
R5	2k2	Metal film resistor, 1/4W	
R6	2k2	Metal film resistor, 1/4W	
R7	1k	Metal film resistor, 1/4W	
R8	2k2	Metal film resistor, 1/4W	
R9	2k2	Metal film resistor, 1/4W	
R10	2k2	Metal film resistor, 1/4W	
R11	2k2	Metal film resistor, 1/4W	
R12	100k	Metal film resistor, 1/4W	
R13	100k	Metal film resistor, 1/4W	
R14	47R	Metal film resistor, 1/4W	Power supply filter resistor.
RPD	2M2	Metal film resistor, 1/4W	Input pulldown resistor. Can be as low as 1M.
LEDR	10k	Metal film resistor, 1/4W	LED current-limiting resistor. Adjust value to change LED brightness.
C1	47n	Film capacitor, 7.2 x 2.5mm	
C2	200pF	MLCC capacitor, NP0/COG	
C3	220n	Film capacitor, 7.2 x 2.5mm	
C4	100n	Film capacitor, 7.2 x 2.5mm	
C5	1uF	Film capacitor, 7.2 x 3.5mm	Can omit and use 4.7uF tantalum for C6. See build notes.
C6	OMIT	Tantalum capacitor, 044A	Can use 4.7uF tantalum here and leave C5 empty. See build notes.
C7	47n	Film capacitor, 7.2 x 2.5mm	
C8	22n	Film capacitor, 7.2 x 2.5mm	
C9	47n	Film capacitor, 7.2 x 2.5mm	
C10	47n	Film capacitor, 7.2 x 2.5mm	
C11	1uF	Film capacitor, 7.2 x 3.5mm	Can omit and use 4.7uF tantalum for C12. See build notes.
C12	OMIT	Tantalum capacitor, 044A	Can use 4.7uF tantalum here and leave C11 empty. See build notes.
C13	47uF	Electrolytic capacitor, 5mm	Reference voltage filter capacitor.
C14	100uF	Electrolytic capacitor, 6.3mm	Power supply filter capacitor.
C15	100n	MLCC capacitor, X7R	Power supply filter capacitor.

PARTS LIST, CONT.

PART	VALUE	TYPE	NOTES
D1	1N5817	Schottky diode, DO-41	
D2	1N914	Fast-switching diode, DO-35	
D3	1N914	Fast-switching diode, DO-35	
IC1	TL072	Operational amplifier, dual, DIP8	
IC1-S	DIP-8 socket	IC socket, DIP-8	
GAIN	100kA	16mm right-angle PCB mount pot	Audio (log) taper.
BASS	50kB	16mm right-angle PCB mount pot	Linear taper.
MID	50kB	16mm right-angle PCB mount pot	Linear taper.
TREBLE	100kB	16mm right-angle PCB mount pot	Linear taper.
VOLUME	10kB	16mm right-angle PCB mount pot	Linear taper.
IN	1/4" stereo	1/4" phone jack, closed frame	Switchcraft 112BX or equivalent.
OUT	1/4" mono	1/4" phone jack, closed frame	Switchcraft 111X or equivalent.
DC	2.1mm	DC jack, 2.1mm panel mount	Lumberg NEB/J 21 C or equivalent.
BATT	Battery snap	9V battery snap	Optional. Use the soft plastic type—the hard-shell type will not fit.
FSW	3PDT	Stomp switch, 3PDT	Available from Aion FX .
ENC	125B	Enclosure, die-cast aluminum	Can also use a Hammond 1590N1.

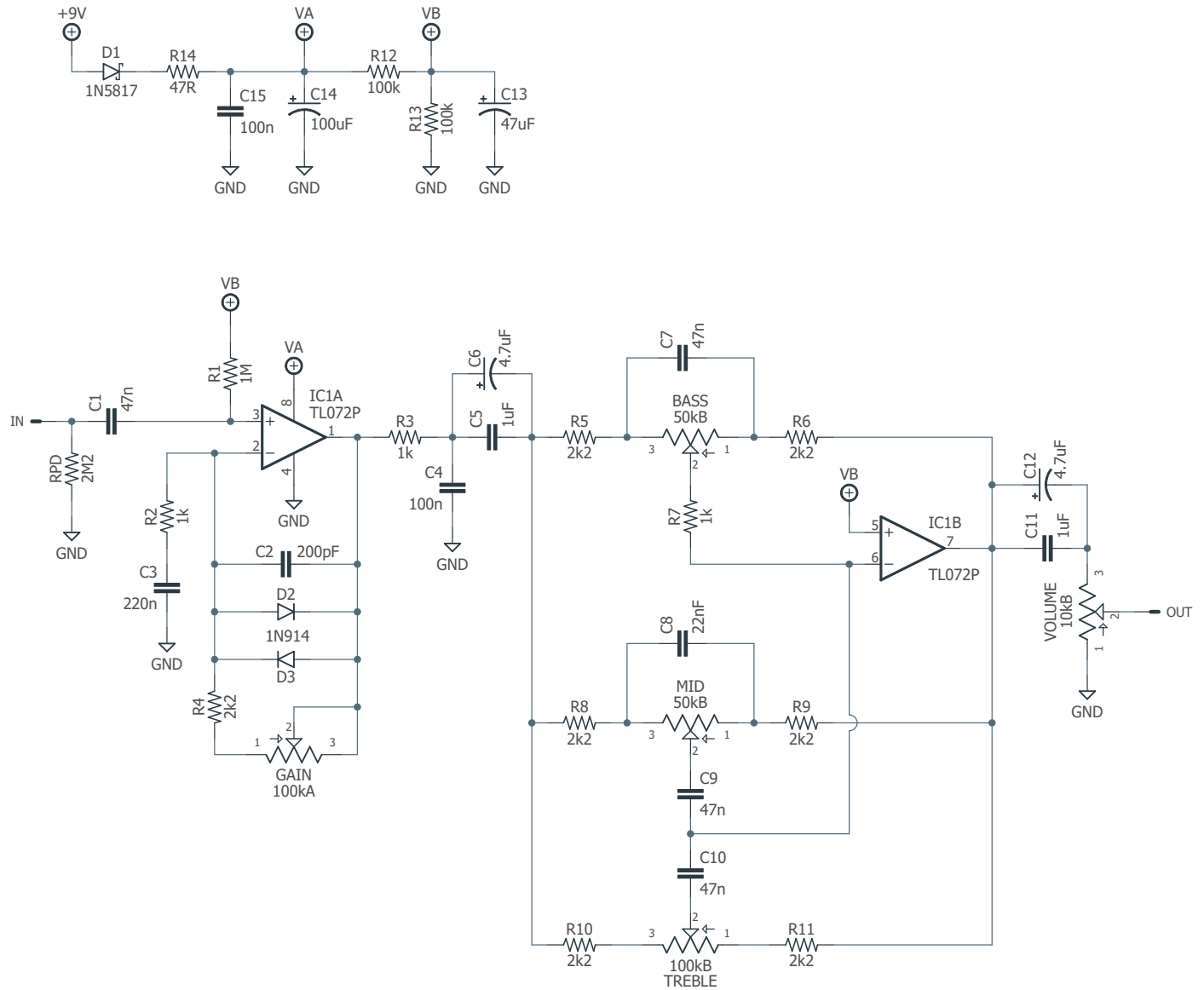
BUILD NOTES

C5/C6 and C11/C12 capacitors

The Silver Kiss uses 4.7uF tantalum capacitors (C6 and C12) as signal couplers immediately after both of the op-amp stages. We recommend keeping tantalum capacitors out of the signal path wherever possible. This PCB includes space for an alternate film capacitor (C5 and C11) in each of these positions, in which case C6 and C12 can be omitted entirely.

Due to the low source impedance of the op-amp stages, 1uF is more than enough to pass all useful bass frequencies. However, if you want to stick as closely as possible to the original circuit, use 4.7uF tantalum capacitors for C6 and C12 and omit C5 and C11.

SCHEMATIC



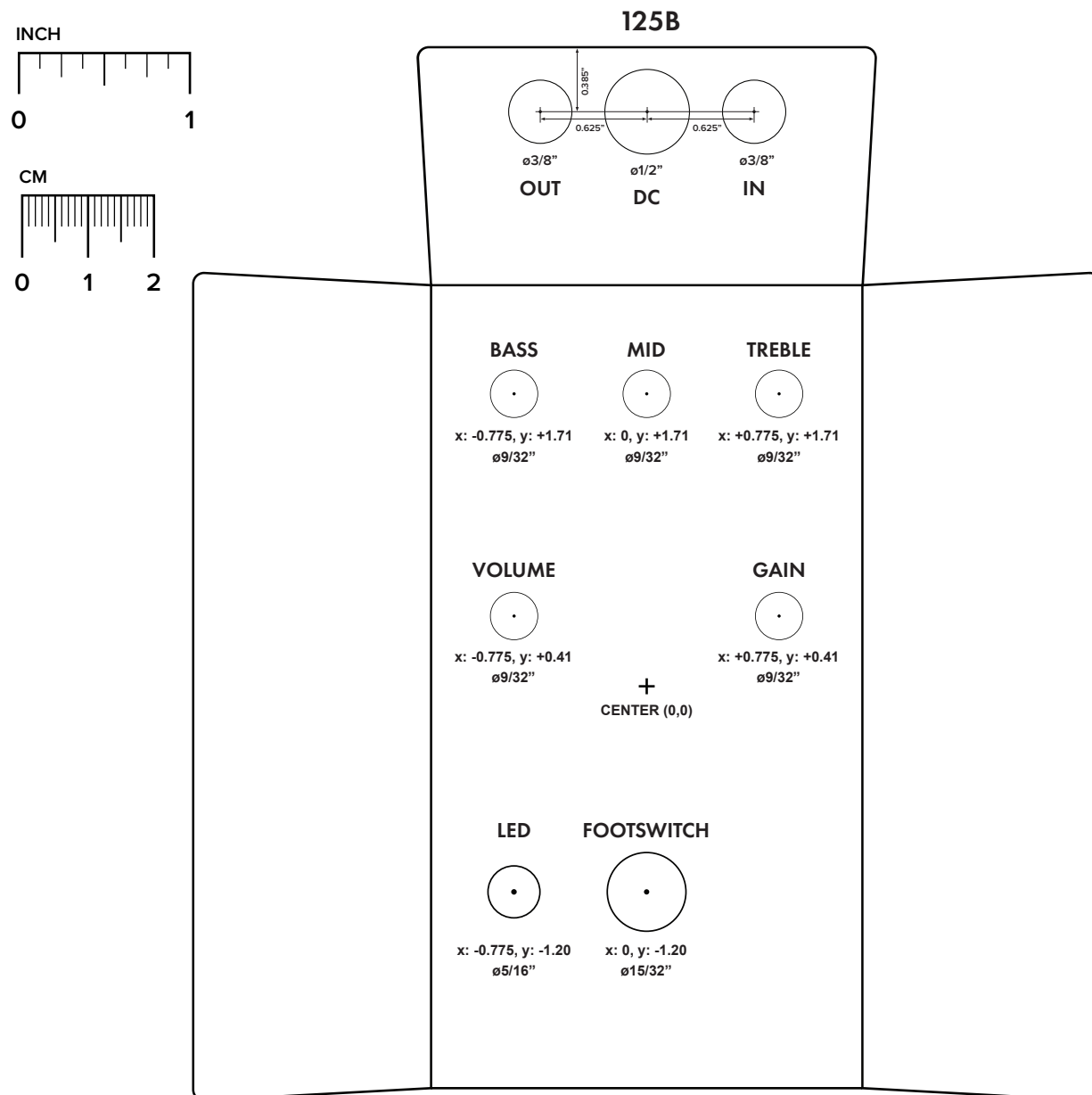
DRILL TEMPLATE

Cut out this drill template, fold the edges and tape it to the enclosure. Before drilling, it's recommended to first use a center punch for each of the holes to help guide the drill bit.

Ensure that this template is printed at 100% or "Actual Size". You can double-check this by measuring the scale on the printed page.

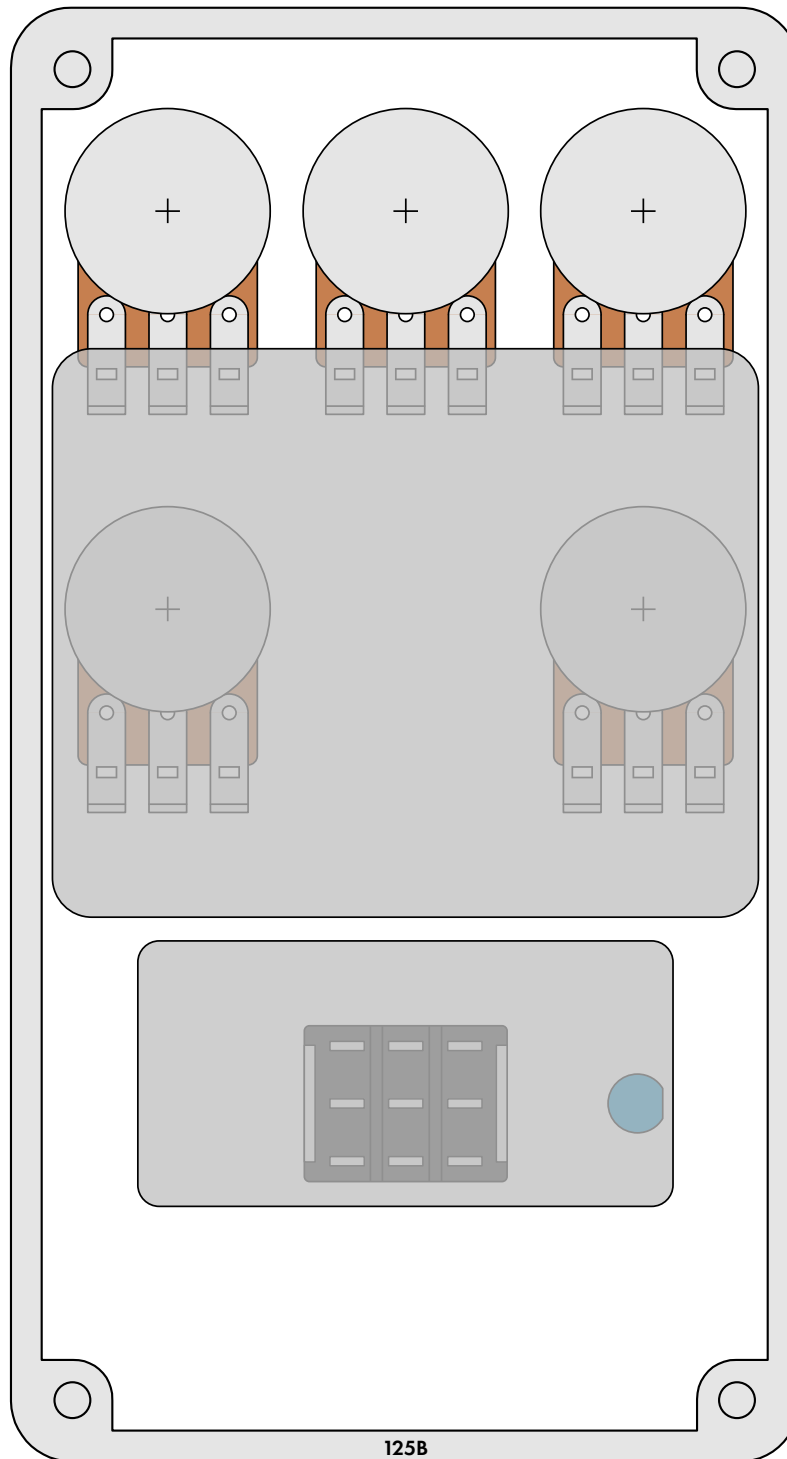
Top jack layout assumes the use of closed-frame jacks like the [Switchcraft 111X](#). If you'd rather use open-frame jacks, please refer to the [Open-Frame Jack Drill Template](#) for the top side.

LED hole drill size assumes the use of a [5mm LED bezel](#), available from several parts suppliers. Adjust size accordingly if using something different, such as a 3mm bezel, a plastic bezel, or just a plain LED.

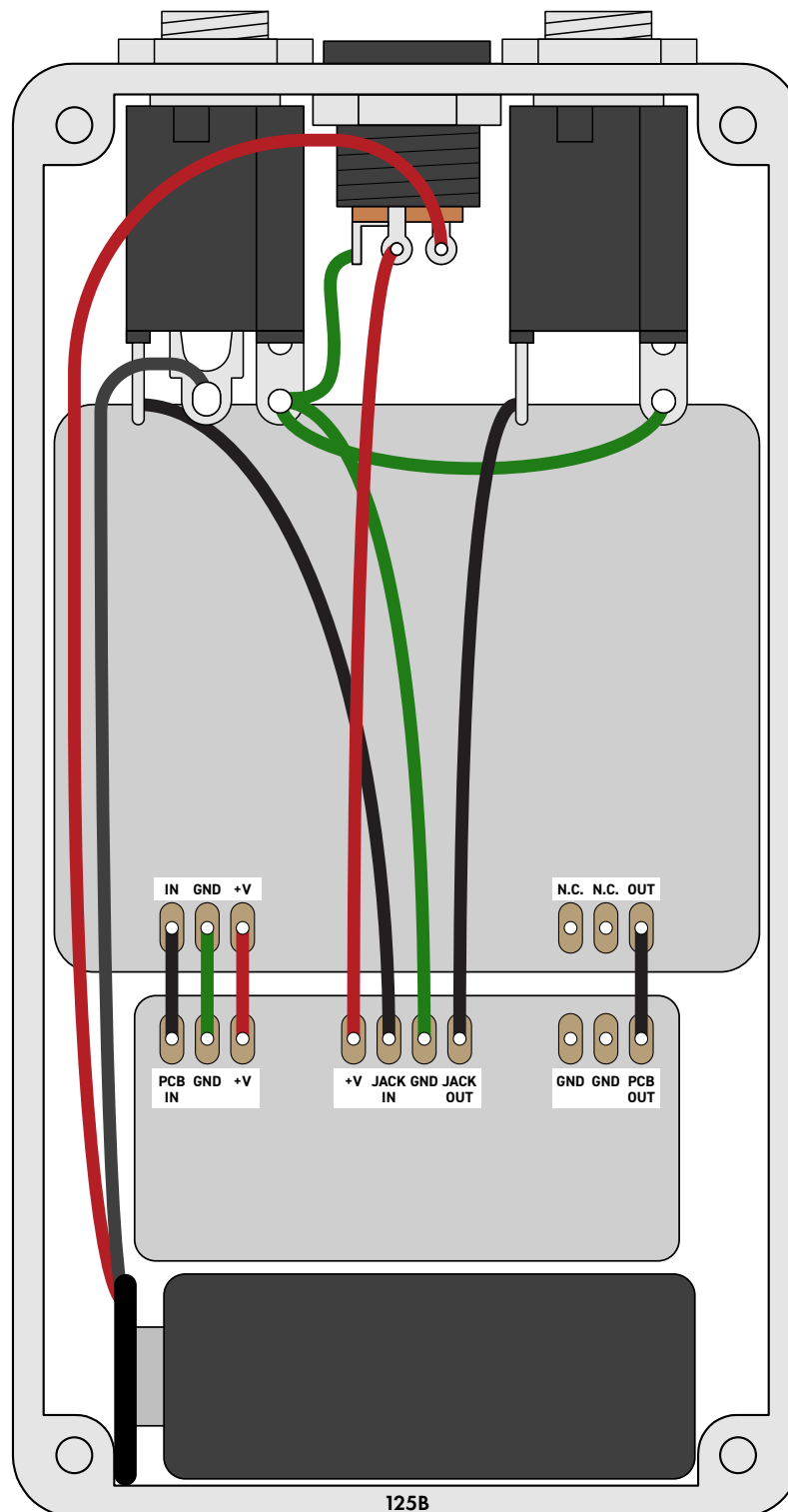


ENCLOSURE LAYOUT

Enclosure is shown without jacks. See next page for jack layout and wiring.



WIRING DIAGRAM



*Shown with optional 9V battery. If battery is omitted, both jacks can be mono rather than one being stereo.
Leave the far-right lug of the DC jack unconnected.*

LICENSE & USAGE

No direct support is offered for these projects beyond the provided documentation. It's assumed that you have at least some experience building pedals before starting one of these. Replacements and refunds cannot be offered unless it can be shown that the circuit or documentation are in error.

All of these circuits have been tested in good faith in their base configurations. However, not all the modifications or variations have necessarily been tested. These are offered only as suggestions based on the experience and opinions of others.

Projects may be used for commercial endeavors in any quantity unless specifically noted. No attribution is necessary, though a link back is always greatly appreciated. The only usage restrictions are that **(1) you cannot resell the PCB as part of a kit without prior arrangement, and (2) you cannot “goop” the circuit, scratch off the screenprint, or otherwise obfuscate the circuit to disguise its source.** (In other words: you don't have to go out of your way to advertise the fact that you use these PCBs, but please don't go out of your way to hide it. The guitar effects industry needs more transparency, not less!)

DOCUMENT REVISIONS

1.0.0 (2023-11-24)

Initial release.