



Blackmail

V2.3 Rev. C/D

Circuit Notes

It seems like the Boss XT-2 has had a bit of a slow burn lately and since it's out of production and sounds cool, I thought I'd take a stab at it. I also found [Rob Mods' video suggesting alterations to the Contour control](#) and incorporated those changes as an option here.

Rev C vs Rev D

The actual circuit and schematic (including component designators) are identical, but I found the Rev. C boards were difficult to fit into a 125B so I drew a smaller board for Rev. D. Both PCB images are included below – make sure you refer to the correct ones. The schematic and bill of materials apply to both versions.

About the Circuit

C103 and C304

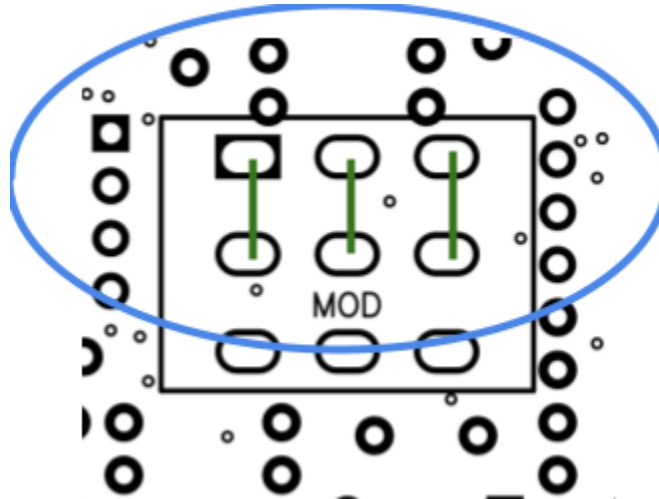
Low-value (sub-1nF) film capacitors are not available on Tayda and may be hard to find from other suppliers as well. I found 220p and 330p film capacitors on eBay and used them here because film is preferable in an audio filter, but good-quality ceramics should work fine as well. I based the PCB footprint on the 220p/330p “greenies” in my supply drawer, so if you're using anything else you might have to stretch or squeeze the leads.

Mods

The mods in this circuit are adapted from [the Rob Mods video](#). They're not exactly his mods because I wanted the circuit to be switchable between stock and modded. The biggest difference is that his mods call for an A50K contour pot; I left the W100K and added a parallel resistor that, when simulated, produces a reasonably close approximation of A50K. If you want to build the circuit without the MOD switch, see diagrams on the next page.

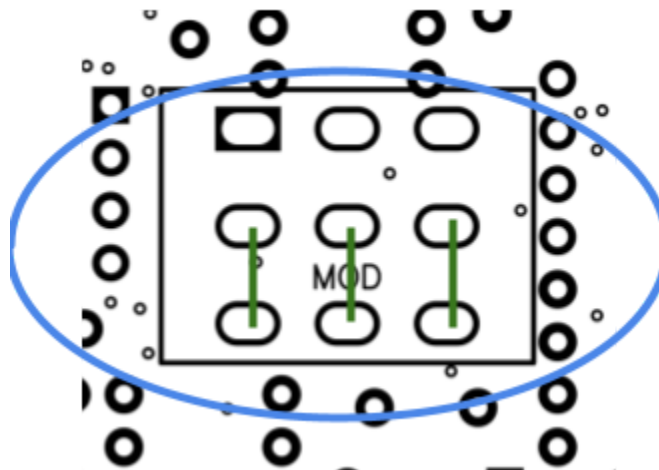
Stock Only

To build just the stock circuit, omit R312, R313, and C311 and jumper the **upper** and middle pads of the MOD switch as shown:



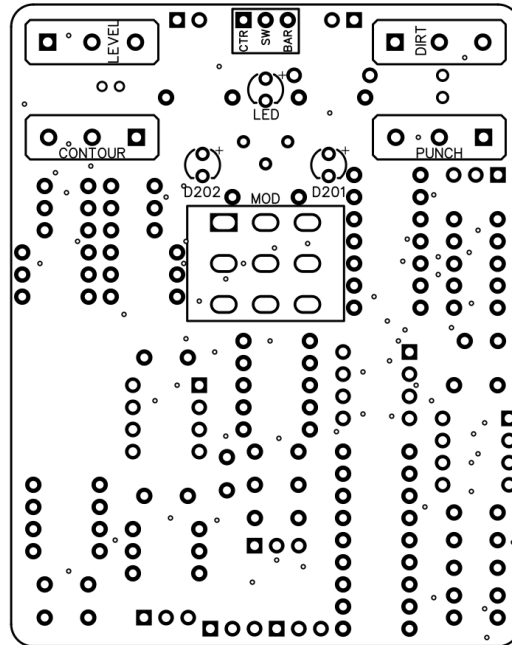
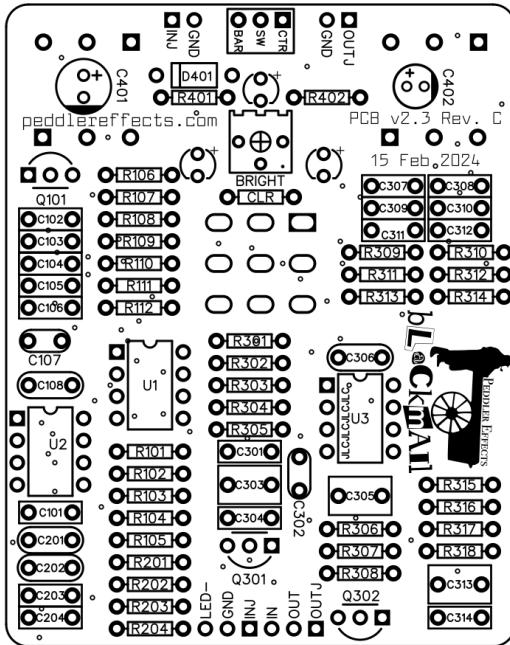
Modded Only

To build just the modded circuit, omit R314 and C312 and jumper the **lower** and middle pads of the MOD switch as shown:

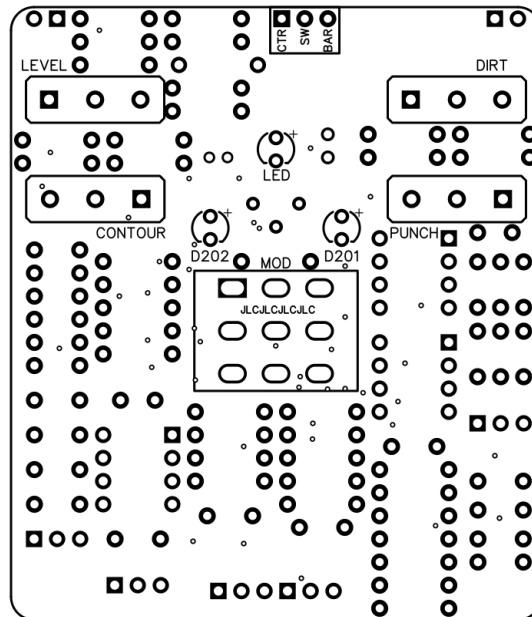
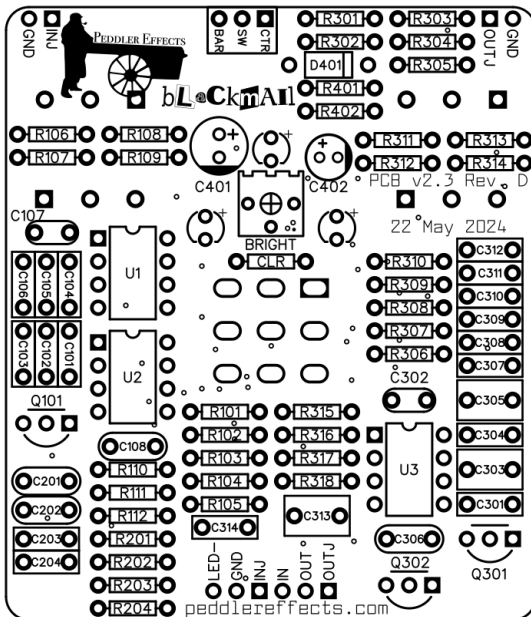


PCB Layout

Rev. C



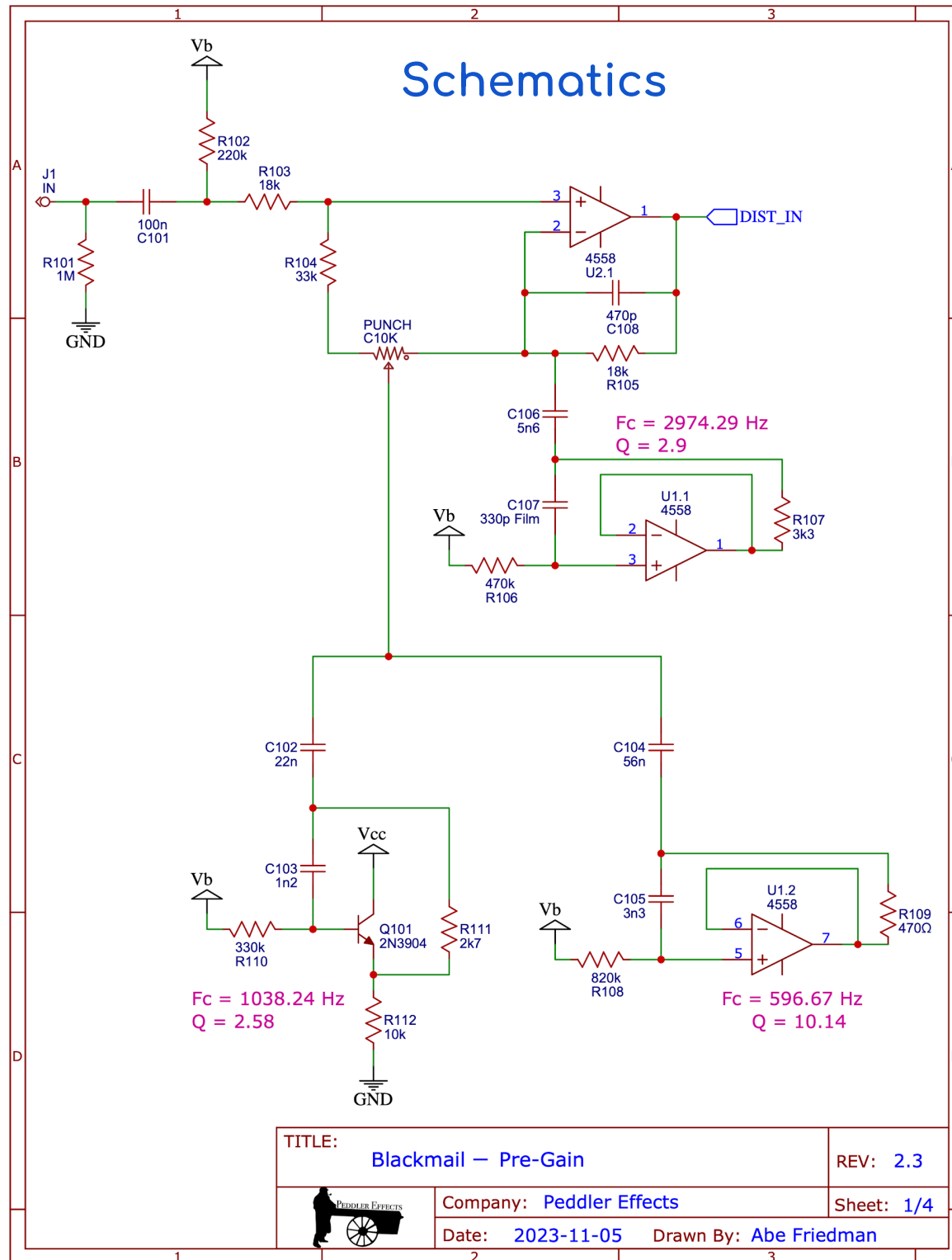
Rev. D

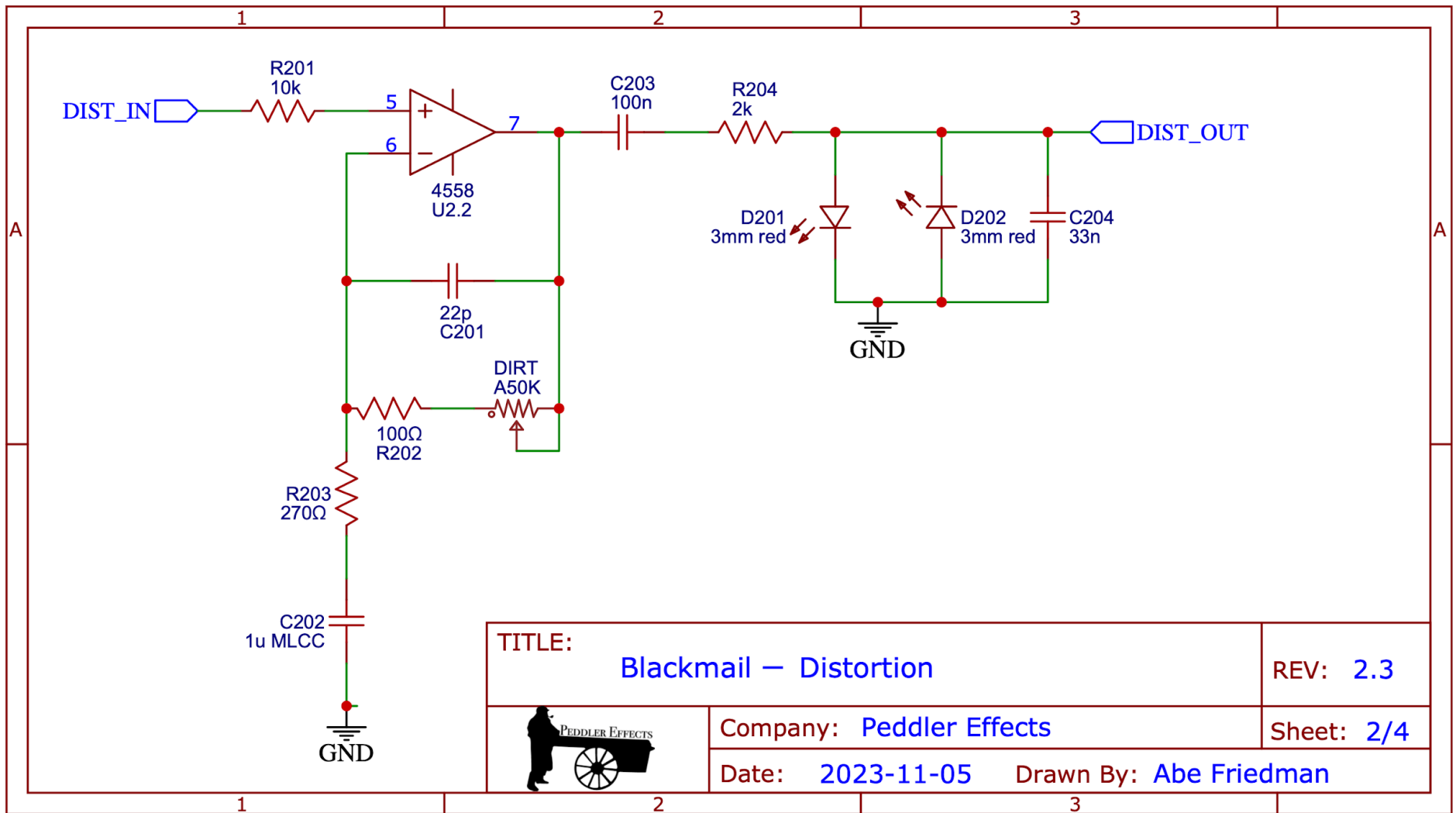


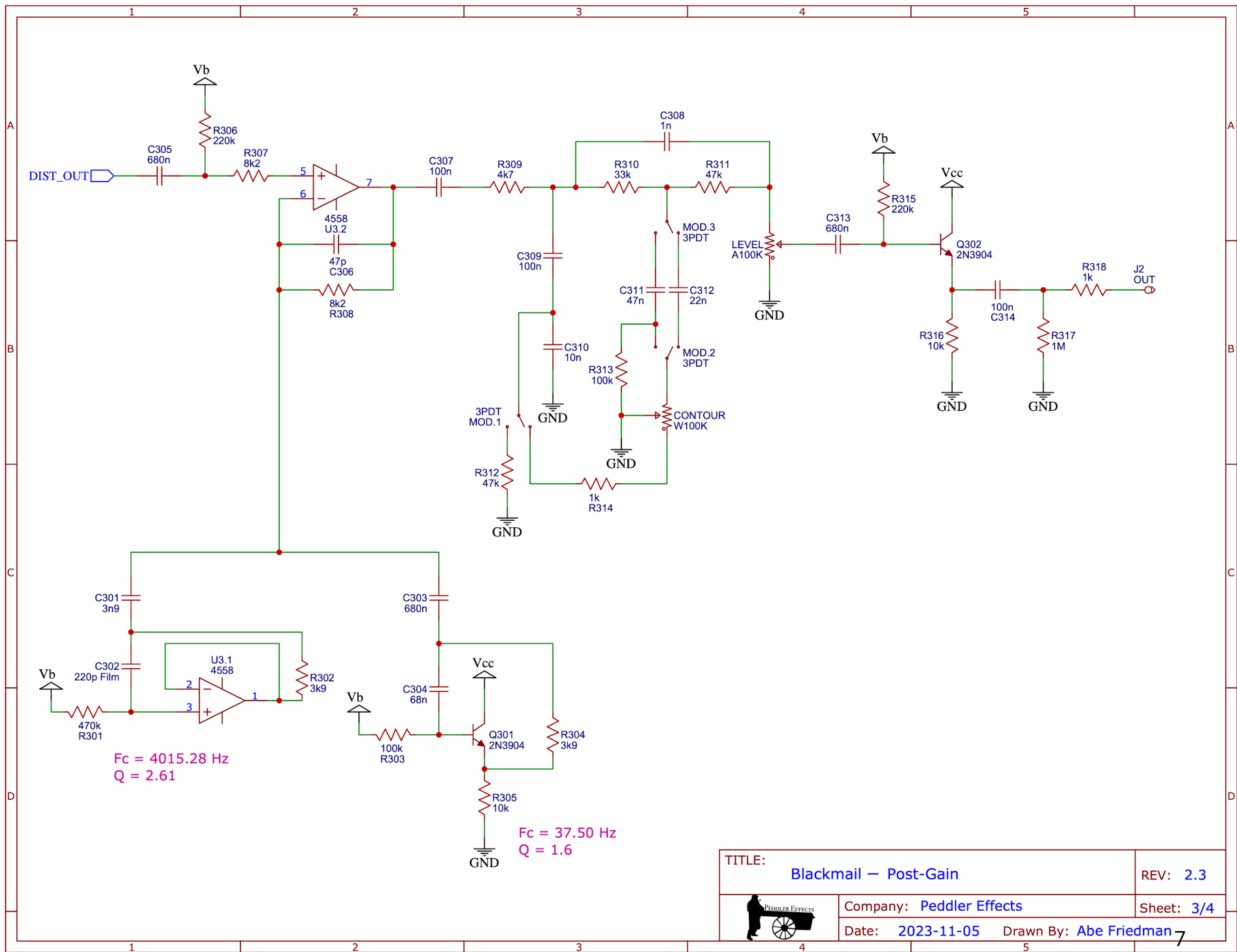
Off-Board Wiring

Pad	Connection
IN	Circuit Input connection to 3PDT Switch
OUT	Circuit Output connection to 3PDT Switch
INJ	Input Jack / Input Jack connection to 3PDT Switch
OUTJ	Output Jack / Output Jack connection to 3PDT Switch
LED-	LED connection on 3PDT Switch
BAR	DC Jack Barrel (+9V)
CTR	DC Jack Center Pin (Ground)
GND	Ground

Schematics

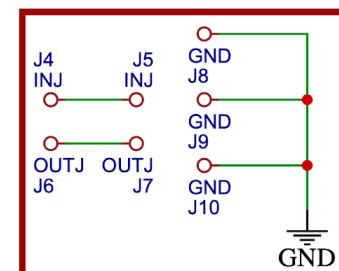
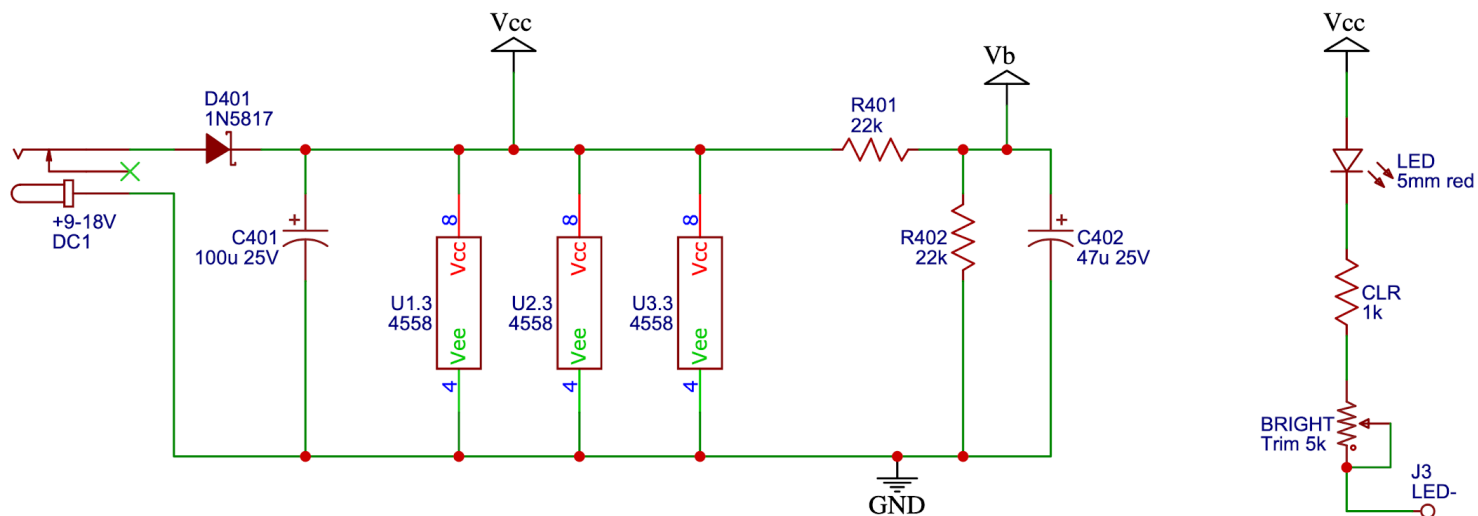






TITLE: Blackmail – Post-Gain	REV: 2.3
	Company: Peddler Effects Date: 2023-11-05 Drawn By: Abe Friedman

Sheet: **3/4**



Changelog:

V1.0 (12/8/21): Redraw and clean up available schematic; replace 7k9 resistors with 8k2

V1.1 (8/15/22): Footprint and designator adjustments; add LED dimmer

V2.0 (1/25/23): Add "Rob Mods" to Contour based on YouTube video; Add MOD switch to select stock/mods;

Add op amp input/output buffers

V2.1 (1/29/23): Remove U4, change to emitter follower output buffer

V2.2 (11/5/23): Add missing bias resistor to input (R100) [now R102 2/11/24]

V2.3 (2/11/24): Correct orientation of U3

TITLE:

Blackmail — Power

REV: 2.3



Company: Peddler Effects

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Bill of Materials

[Click here for spreadsheet](#)

Resistors											
R202	100Ω	R204	2k	R307	8k2	R103	18k	R311	47k	R110	330k
R203	270Ω	R111	2k7	R308	8k2	R105	18k	R312*	47k	R106	470k
R109	470Ω	R107	3k3	R112	10k	R401	22k	R303	100k	R301	470k
CLR*	1k	R302	3k9	R201	10k	R402	22k	R313*	100k	R108	820k
R314*	1k	R304	3k9	R305	10k	R104	33k	R102	220k	R101	1M
R318	1k	R309	4k7	R316	10k	R310	33k	R306	220k	R317	1M
								R315	220k		

Capacitors											
C201	22p	Ceramic	C106	5n6	Film (Box-type)	C101	100n	Film (Box-type)			
C306	47p	Ceramic	C310	10n	Film (Box-type)	C203	100n	Film (Box-type)			
C108	470p	Ceramic	C102	22n	Film (Box-type)	C307	100n	Film (Box-type)			
C202	1u	Ceramic	C312*	22n	Film (Box-type)	C309	100n	Film (Box-type)			
C302*	220p	Film	C204	33n	Film (Box-type)	C314	100n	Film (Box-type)			
C107*	330p	Film	C311*	47n	Film (Box-type)	C303	680n	Film (Box-type)			
C308	1n	Film (Box-type)	C104	56n	Film (Box-type)	C305	680n	Film (Box-type)			
C103	1n2	Film (Box-type)	C304	68n	Film (Box-type)	C313	680n	Film (Box-type)			
C105	3n3	Film (Box-type)				C402	47u	Electrolytic 25V			
C301	3n9	Film (Box-type)				C401	100u	Electrolytic 25V			

Diodes	
D401	1N5817
D201*	3mm red
D202*	3mm red
LED	5mm red

ICs & Transistors§	
Q101,Q301-Q302	2N3904
U1-U3	JRC4558

Potentiometers & Switches	
BRIGHT*	Trim 5k
CONTOUR*	W100K
DIRT	A50K
LEVEL	A100K
PUNCH	C10K
MOD*	3PDT

* See circuit notes.

§ Can substitute comparable parts

Suggested Drill Template

1 inch

2 cm

Use these reference boxes
to ensure correct printing scale

