



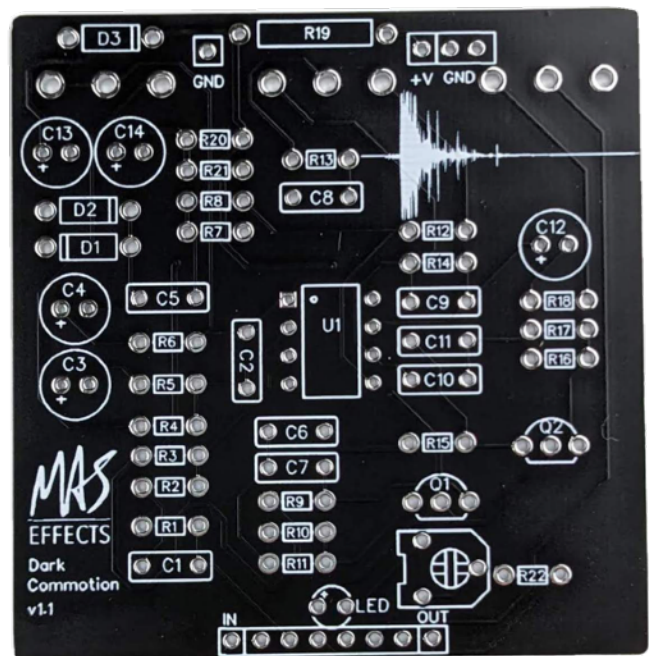
Dark Commotion

Compare to Ibanez BN-5 Black Noise

I hope you have a ton of fun building this. MAS Effects focuses on niche products and will probably never sell a large assortment of effects pedal PCBs, but once in a while a special circuit lands on my bench and I just have to share it. This Black Noise is a fantastic distortion that's relatively hard to find on the market, so I built a couple batches of them and everyone loved them.

I thought you may enjoy building it too, so here we are. However since DIY was an afterthought, you'll find a couple quirks you may not be used to (namely the ribbon cable wiring, more on that below, and the use of 1/8W resistors).

If you have any questions or run into any problems, you can email me directly <mark@mas-effects.com> or post your question and pics of your build to [reddit.com/r/maseffects](https://www.reddit.com/r/maseffects).

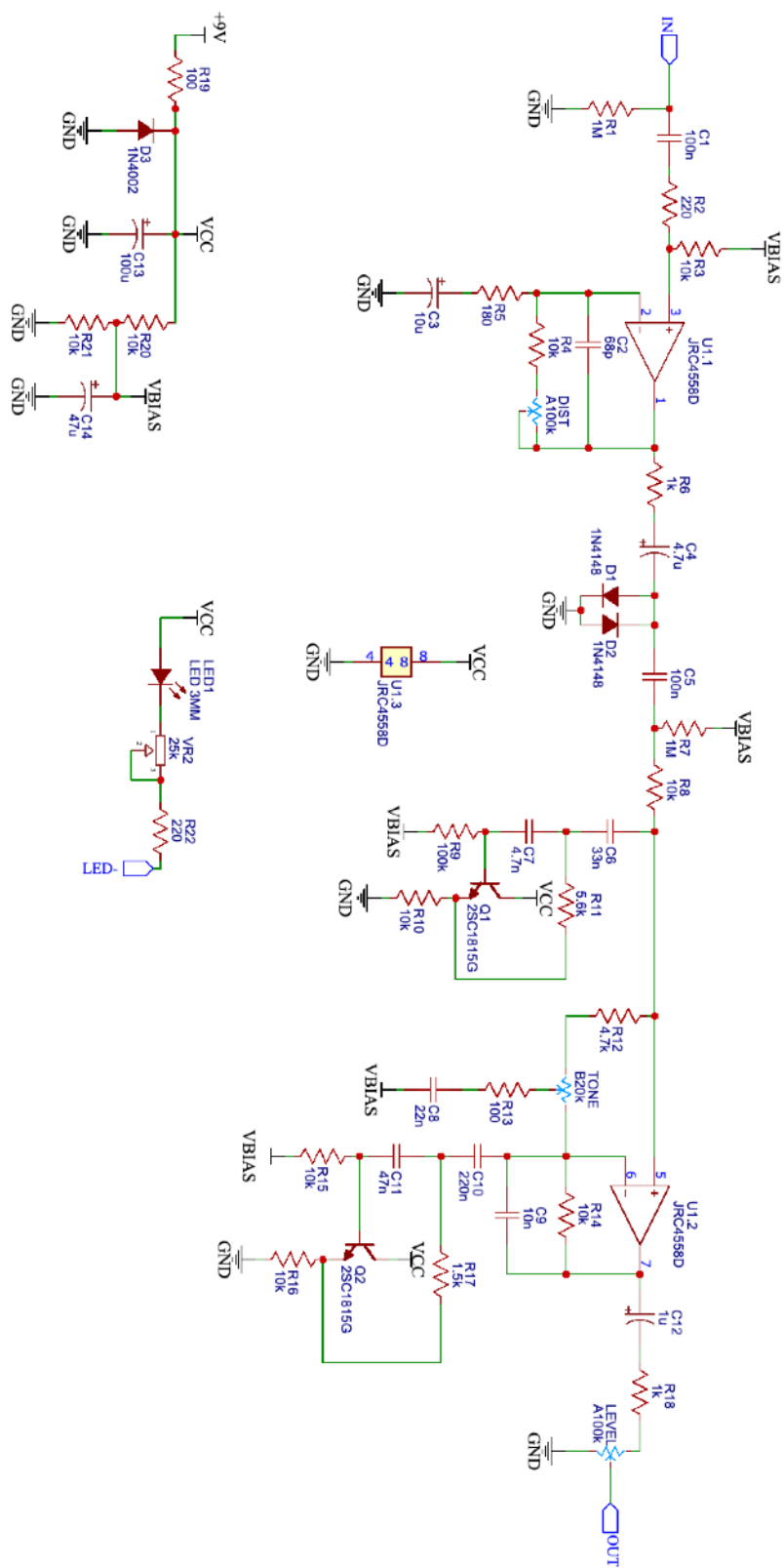


Bill of Materials

Part	Designator	QTY	Note
100n	C1,C5	2	
68p	C2	1	
10u	C3	1	
4.7u	C4	1	
33n	C6	1	
4.7n	C7	1	
22n	C8	1	
10n	C9	1	
220n	C10	1	
47n	C11	1	
1u	C12	1	
100u	C13	1	
47u	C14	1	
1M	R1,R7	2	1/8W preferred
220	R2	1	1/8W preferred
220	R22	1	CLR. Adjust its value to taste if omitting VR2. 1/8W preferred
10k	R3,R4,R8,R10,R14,R15,R16,R20,R21	9	1/8W preferred
180	R5	1	1/8W preferred
1k	R6,R18	2	1/8W preferred
100k	R9	1	1/8W preferred
5.6k	R11	1	1/8W preferred
4.7k	R12	1	1/8W preferred
100	R13,R19	2	1/8W preferred
1.5k	R17	1	1/8W preferred
1N4148	D1,D2	2	
1N4002	D3	1	
LED	LED1	1	Visual indicator
2SC1815	Q1,Q2	2	
JRC4558D	U1	1	
A100k	DIST,LEVEL	2	
B20k	TONE	1	
25k	VR2	1	Optional Trimmer, see notes below if omitting
100n	C1,C5	2	

Schematic

You can find a higher resolution version at <https://mas-effects.com/files/black-noise-schematic.png>



NOTES

Wiring

Look at the row of 8 pads at the bottom of the main PCB and choose one of the following:

Ribbon Cable: Wire the input jack tip to "IN" on the left, and the output jack tip to "OUT" on the right. Use a 6 conductor ribbon cable to connect the two boards.

Extra Credit: A curious and astute builder may notice the redundancy here. Why not simply use 4 conductors and wire the jacks directly to the daughter PCB? Well, I simply had a large stock of 6 conductor ribbons on hand. In retrospect it would have been simpler to cut the ribbon cables rather than explain this quirk. :)

Individual wires: If you would rather use individual strands of wire, you can....

A) *Simple method:* wire it the same as the ribbon cable method above. Run 6 wires between the two PCBs, and run your input jack tip and output jack tip to the "IN" and "OUT" pads.

or B) *Fewer wires:*

- leave the outer 2 pads on the main PCB unpopulated ("IN" and "OUT")
- wire the input jack tip to the "JI" pad on the foot switch daughter board
- wire the output jack tip to the "JI" pad on the foot switch
- run wires for the middle 4 pads between the two PCBs

Trimmer

The VR2 trimmer acts in series with R22 to limit the current to the LED. If you'd prefer a fixed resistor value for your LED:

- Omit the trimmer and jump the top pad of VR2 to one of its lower ones with a bit of wire or a resistor cutoff
- size R22 to taste

Resistors

The PCB was designed for 1/8 resistors. 1/4 can be made to work but will not fit as nicely.

Drill Guide

If you use Tayda's drill service, use the following link:

https://drill.taydakits.com/box-designs/new?public_key=Tk45czlTSVV5VFJhSXZQVFdBUG1oQT09Cg==

Otherwise see below for a printable template. Double-check that it was printed to 100% scale by measuring one of the arrows. All measurements are in *mm*.

