

Dazatronyx Rad Distortion XL Bill of Materials

Parts	Qty	Value	Markings / notes
Diodes (polarity sensitive)			
D1	1	1N5819 schottky	Alternative: 1N5818. Band side goes into the square pad.
D2, D3 (not marked)	2	black glass amber LED	Alternative: 1N4148. Band side goes into the square pad. Short leg goes into the square pad. Pads are at the very top of the board.
D6, D7, D8, D9	4	germanium	Clear glass. Band side goes into the square pad.
D10	1	LED	Clear. Short leg goes into the square pad. Insert underneath the board.
D11	1	1N4732	4V7 zener. Band side goes into the square pad.

Resistors			
R8	1	47Ω	YLW, VIO, BLK, GOLD
R7	1	560Ω	GRN, BLU, BRN, GOLD
R6, R9	2	1K	BRN, BLK, RED, GOLD
R10	1	1K5	BRN, GRN, RED, GOLD
R11, R12, R13	3	10K	BRN, BLK, ORG, GOLD
R1, R2, R3	3	100K	BRN, BLK, YLW, GOLD
R5	1	1M	BRN, BLK, GRN, GOLD
R4, R14	2	2M2	RED, RED, GRN, GOLD

Inductor (green)			
L1, L2	2	6800μH	BLU, GRY, RED, SILVER

Capacitors - Axial			
C3	1	30p	300 ceramic
C7	1	100p	101 ceramic
C11	1	100n / 0.1μ	104 ceramic (yellow bead, firm bend)
C6	1	1n / 0.001μ	1000 polystyrene
C11	1	3n3 / 0.0039μ	3300 polystyrene
C5, C12	2	22n / 0.022μ	223 polyester/polypropylene

Transistors			
Q1	1	MMBF5457	N-channel JFET SOT-23 surface mount package
Q2, Q3, Q4	3	PNP Germanium	

ICs			
IC1	1	LM308H	Notch on metal can points up, and must align with notch printed on PCB, <i>not</i> with the square pad.

Capacitors - Radial			
C13	1	1μ	1μF / 105, CBB polypropylene or film MKT, 5.0/5.08mm pitch
C9	1	2μ2	Electrolytic (Polarity sensitive : short leg with band goes into the square pad)
C8, C10	2	4μ7	Electrolytic (Polarity sensitive : short leg with band goes into the square pad)
C1, C2	2	220μ	Electrolytic (Polarity sensitive : short leg with band goes into the square pad)

Potentiometers			
HAIR	1	1KC	16mm, reverse log
GAIN	1	100KA	16mm, log
VOLUME	1	100KB	16mm, linear
TONE	1	100KC	16mm, reverse log

Switches (do not solder to PCB until all potentiometers and switches are tightly assembled in the enclosure)			
BYPASS	1	3PDT foot switch	Latching type. Off-board.
SI/GE	1	DPDT toggle, ON-ON	

Additional parts checklist			
	1	Printed circuit board (PCB)	
	1	1590N1 / 125B enclosure + lid + screws	
	1	3PDT footswitch (latching) + metal washer	
	1	2.1mm DC socket (must be plastic cased type, not metal)	
	1	mono open frame audio socket 1/4" + flat washer + nut	
	1	stereo open frame audio socket 1/4" + flat washer + nut	
	2	serrated star washers for audio sockets	
	4	knobs	
	4	extra potentiometer nuts (optional)	
	1	dress nut for toggle switch	
	1	9V battery connector (optional)	
	1	5mm LED clear plastic diffuser/mount	
	1	zero ohm resistor to link foot switch Earth.	
	1	16mm wire (footswitch Earth link)	
	1	25mm wire (footswitch OUT)	
	1	54mm wire (negative 1590BS kit)	
		solder (lead-free)	

- Further notes**
- Avoid soldering the potentiometers, LED, and footswitch, until all of the hardware is mounted tightly inside the enclosure in final locations. This will prevent stress on the hardware and the supporting pads.
 - To make the knobs sit lower on the pot shafts, an additional nut is suggested to be fitted to the base of each potentiometer to space it further away from the enclosure.
 - The Earth connection to the foot switch is connected directly to the enclosure by a wire wrapped around the foot switch star washer.

Debugging

I will do my best to answer any technical questions about building the circuit, even small ones. Unfortunately, however, I may not always have the resources to *remotely* help you to debug any circuits which are not working correctly, as this will almost always be a soldering or assembly fault. General debugging support is best found online through DIY building groups. Unsuccessful builds may be posted back to me for debugging and fixing for an additional fee.

Feedback

Any feedback or suggestions are always welcomed and may help contribute to future updates. My technical knowledge is limited, and I am happy to crowd-source as much free information as I can. Please consider that these documents may be revised at any time, so it is better to share a link, rather than the actual file.

Licensing

Circuit board layout and all documentation are copyright © Darron Thornbury. The board may be used for private or commercial use.