



Emptyness

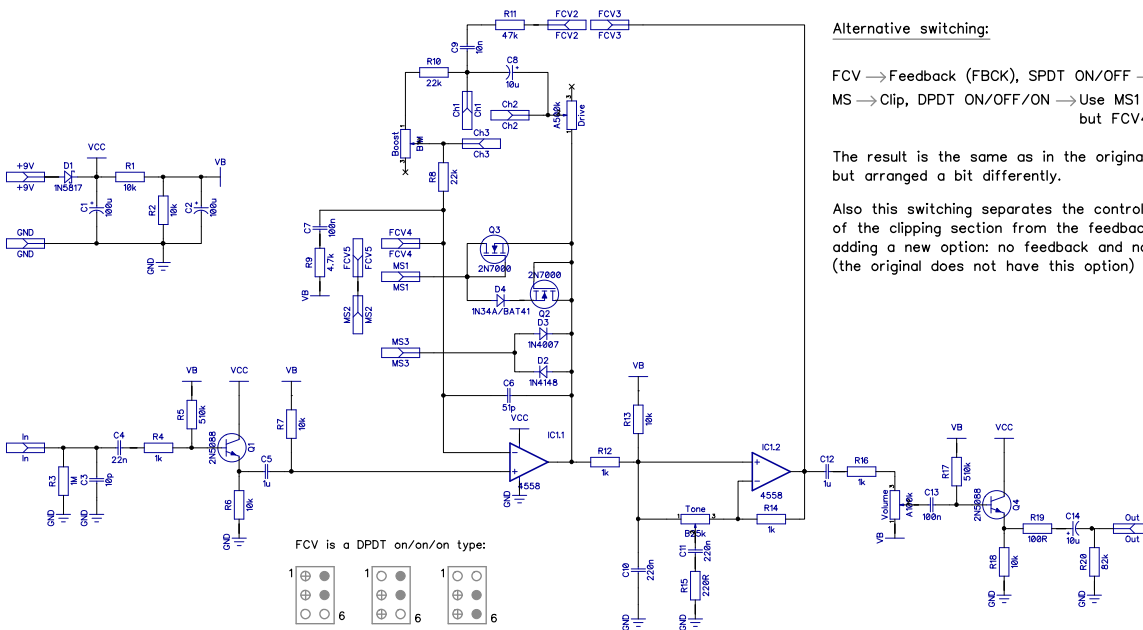
Fulltone Fulldrive 2 Mosfet clone

PCB artwork ©2015 drdFX

Release date: 2015.12. 22.

The Emptyness is a clone of the Fulltone Fulldrive 2 Mosfet dual overdrive.

SCHEMATIC



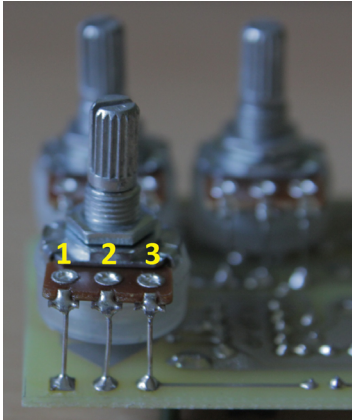
Alternative switching:

FCV → Feedback (FBCK), SPDT ON/OFF → Use FCV2 and FCV3 only
 MS → Clip, DPDT ON/OFF/ON → Use MS1 and MS3 as in the original, but FCV4 instead of MS2

The result is the same as in the original, but arranged a bit differently.

Also this switching separates the control of the clipping section from the feedback, adding a new option: no feedback and no clipping either (the original does not have this option)

NOTES



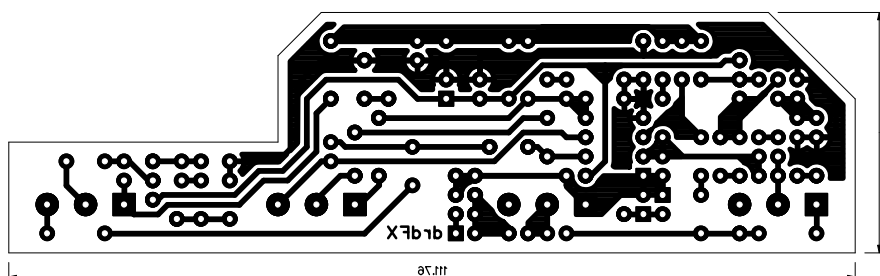
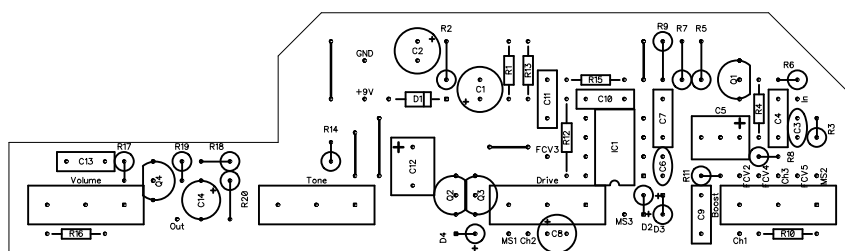
The pots are board mounted to the bottom of the board. The square pads mark the lug 1, for the numbering of the lugs see the picture. The original has a DPDT ON/ON/ON three position switch for the FCV control. The schematic and the layout are created to use this, but if you (like me) want to rather separate the clipping switch and the feedback switch, then you can use a simple SPST for the feedback and an SPDT ON/OFF/ON three position switch for the clipping. For further notes see the schematic.

The switches are not board mounted, but connect with wires. Measure carefully the necessary distance to avoid contact with the solder side. Use respective length of solid wires for the pot lugs to keep the necessary distance.

The opamp in the original is JRC4558, but as always feel free to experiment.

LAYOUT

Print out the PCB design without any resizing options and make sure you switch off the "fit to page" option. The design is free for personal/home use and you also may build one or two for your friends, but the PCB layout is my artwork, therefore protected by copyright and is not permitted to be used for commercial purposes. The layout is meant for 1590BB. The cut-out on one side of the PCB is planned for the power connector. You can either put it there or on the side of the box.



BOM							
Resistors		Capacitors		Semiconductors		Others	
R1	10k	C1	100u	D1	1N5817	Boost	B1M
R2	10k	C2	100u	D2	1N4148	Drive	A500k
R3	1M	C3	10p	D3	1N4007	Tone	B25k
R4	1k	C4	22n	D4	1N34A/BAT41	Volume	A100k
R5	510k	C5	1u	Q1	2N5088	FCV	DPDT (ON/ON/ ON)
R6	10k	C6	51p	Q2	2N7000	Mosfet/standard	SPDT
R7	10k	C7	100n	Q3	2N7000		
R8	22k	C8	10i	Q4	2N5088		
R9	4.7k	C9	10n	IC1	JRC4558		
R10	22k	C10	220n				
R11	47k	C11	220n				
R12	1k	C12	1u				
R13	10k	C13	100n				
R14	1k	C14	10u				
R15	220R						
R16	1k						
R17	510k						
R18	10k						
R19	100R						
R20	82k						

DRILLING TEMPLATE

The below drilling template is for 1590BB.

