

Pearl OC-07 Clone

Krister (zeta55)

November 15, 2007

<http://gaussmarkov.net/wordpress/circuits/oc-07/>

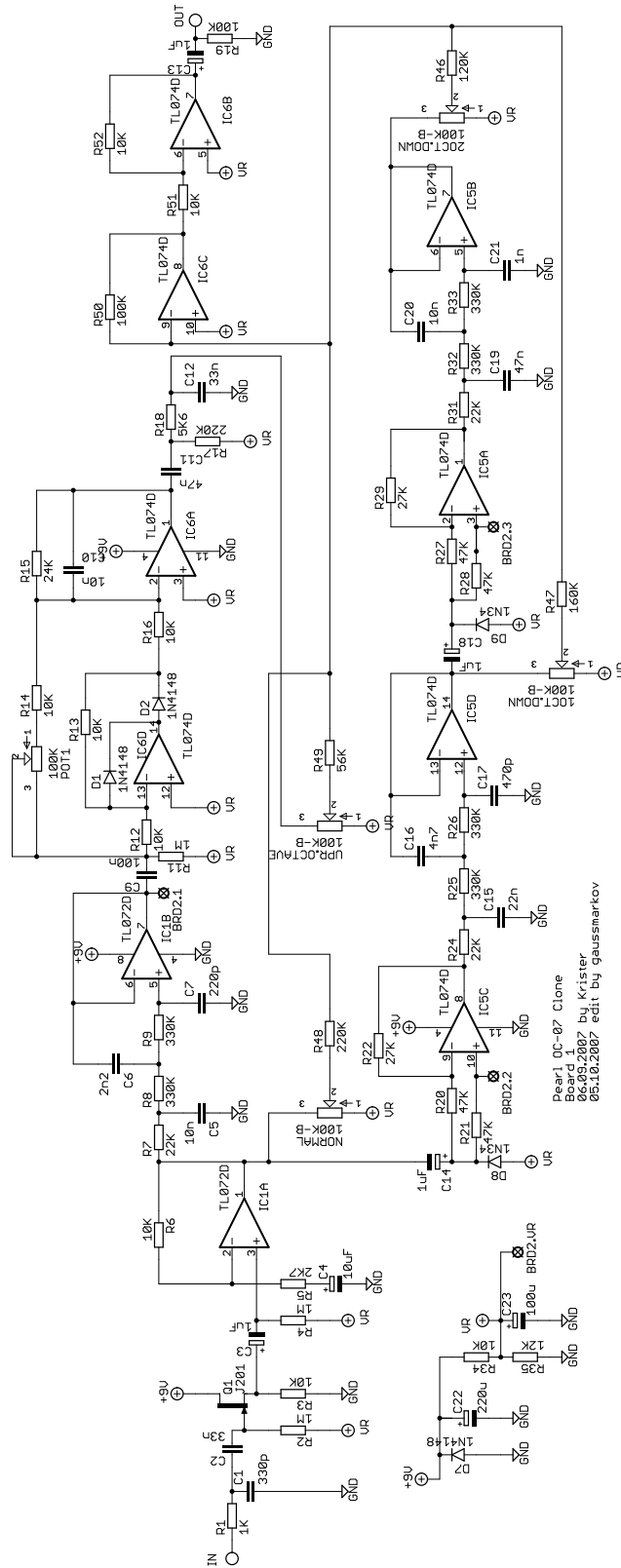
Notes

The online source is DiscoFreq's FX Site: http://filters.muziq.be/files/schematics/pearl_oc-07.jpg.

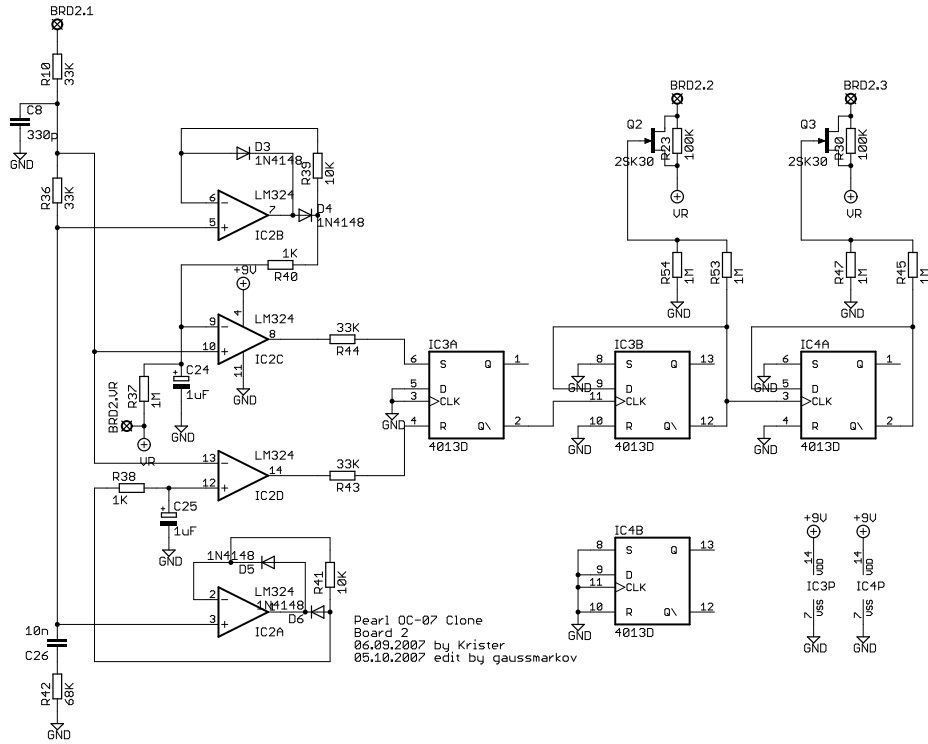
- Use surface mount ICs on both boards to fit within a Hammond 1590B-style enclosure. The number "1" on the layouts indicates the position of pin 1 for each IC. The reverse labeling is a reminder that these components go on the copper side of a single-sided PCB.
- The light blue connections indicate jumpers.
- Connections between boards are labeled with the prefix "BRD2.": BRD2.1, BRD2.2, BRD2.3, and BRD2.VR.
- All film capacitors use 5mm WIMA spacing.
- The bypass switching from the original schematic has been removed.
- Although the project will fit inside a 1590B-style enclosure, there will be no room for a battery. The corners of the main board and the lip of the lid may need to be filed away in order for everything to fit properly. See the outlines on the figures and refer to the build photograph for an example.
- The trimpot on board 1 is used to tune the upper octave. If no oscilloscope or tone generator is available, then follow this procedure:
 1. Turn down the normal, 1 octave down and 2 octave controls, so as to make them inaudible.
 2. Turn the upper octave control to the loudest setting.
 3. Strike a note and adjust the trimpot so as to produce the quietest signal. This is the optimal bias position.

Schematic

Board 1

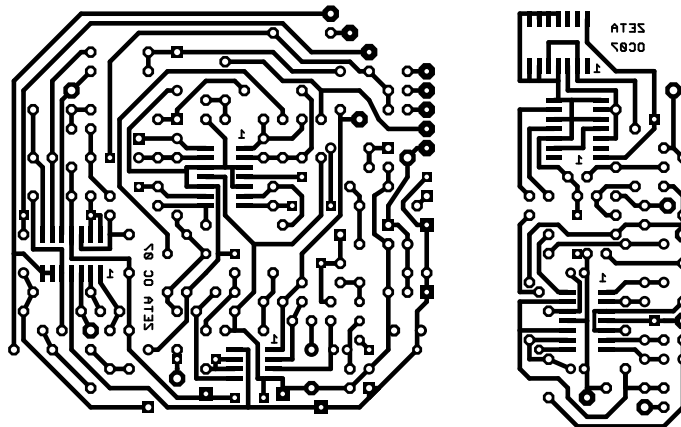


Board2



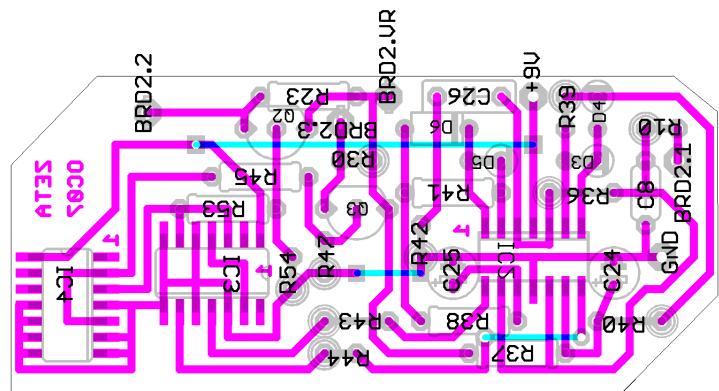
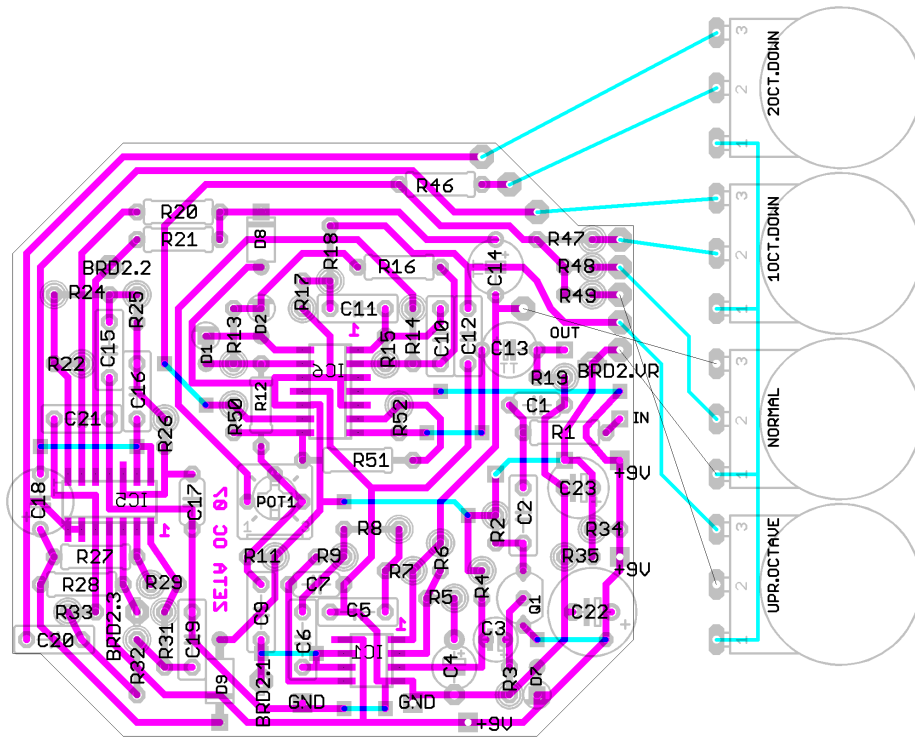
PCB Image

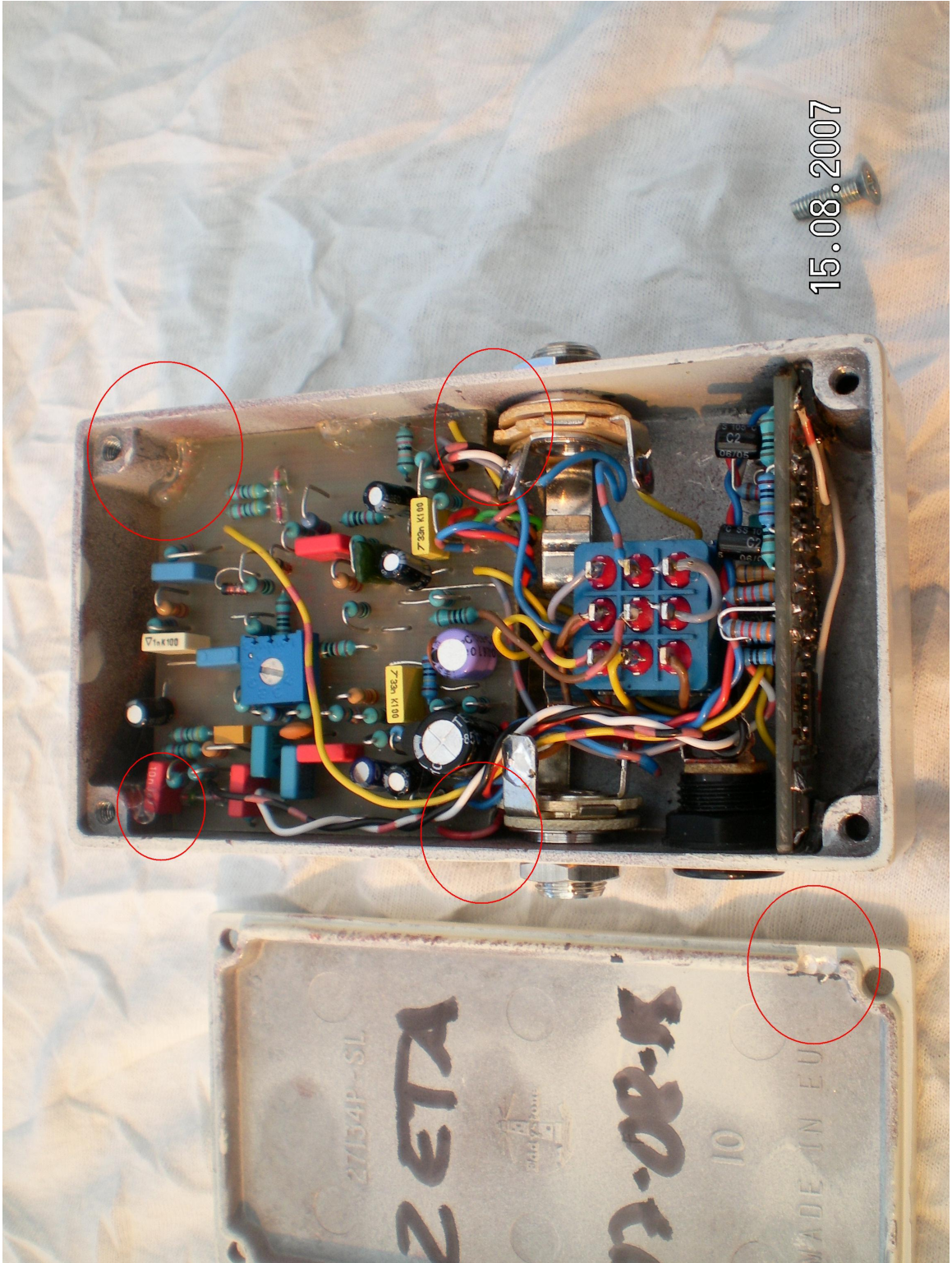
When printing this image, use "Page Scaling: None" in the Adobe Reader print dialog.



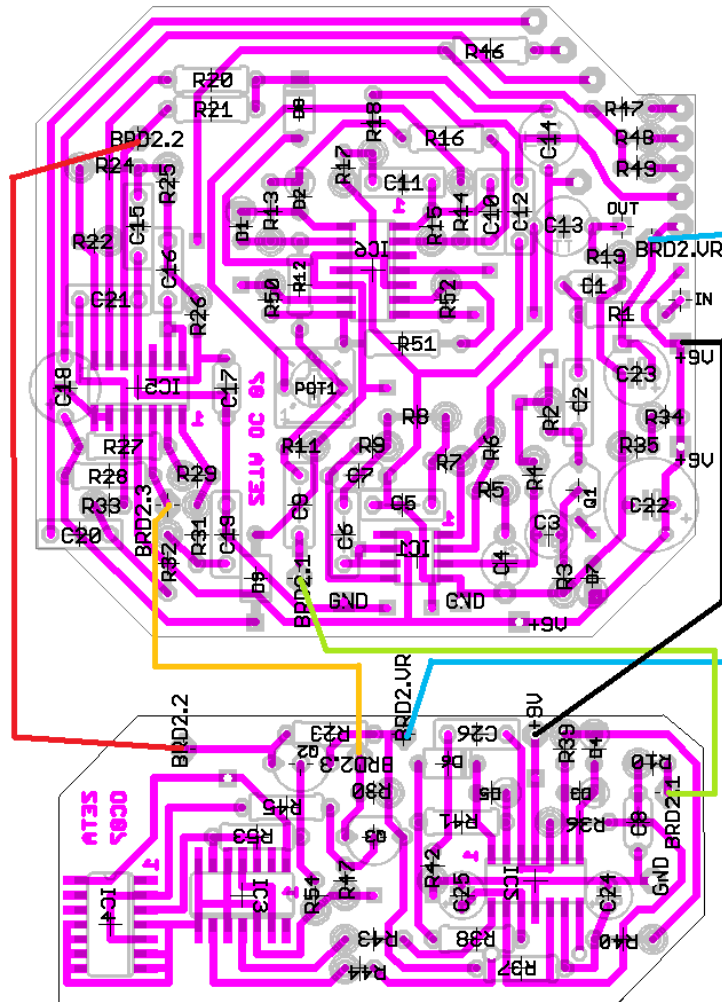
Layout

Component Names





Board Connections



Parts List

Board 1

Part	Value	Library	Part	Value	Library
C1	330p	rcl	R1	1K	rcl
C2	33n	rcl	R2	1M	rcl
C3	1uF	rcl	R3	10K	rcl
C4	10uF	rcl	R4	1M	rcl
C5	10n	rcl	R5	2K7	rcl
C6	2n2	rcl	R6	10K	rcl
C7	220p	rcl	R7	22K	rcl

C9	100n	rcl	R8	330K	rcl
C10	10n	rcl	R9	330K	rcl
C11	47n	rcl	R11	1M	rcl
C12	33n	rcl	R12	10K	rcl
C13	1uF	rcl	R13	10K	rcl
C14	1uF	rcl	R14	10K	rcl
C15	22n	rcl	R15	24K	rcl
C16	4n7	rcl	R16	10K	rcl
C17	470p	rcl	R17	220K	rcl
C18	1uF	rcl	R18	5K6	rcl
C19	47n	rcl	R19	100K	rcl
C20	10n	rcl	R20	47K	rcl
C21	1n	rcl	R21	47K	rcl
C22	220u	rcl	R22	27K	rcl
C23	100u	rcl	R24	22K	rcl
			R25	330K	rcl
D1	1N4148	gm-diodes	R26	330K	rcl
D2	1N4148	gm-diodes	R27	47K	rcl
D7	1N4148	gm-diodes	R28	47K	rcl
D8	1N34	gm-diodes	R29	27K	rcl
D9	1N34	gm-diodes	R31	22K	rcl
			R32	330K	rcl
IC1	TL072D	linear	R33	330K	rcl
IC5	TL074D	linear	R34	10K	rcl
IC6	TL074D	linear	R35	12K	rcl
			R46	120K	rcl
Q1	J201	gm-trans	R47	160K	rcl
			R48	220K	rcl
10CT.DOWN	100K-B	gm-pots	R49	56K	rcl
20CT.DOWN	100K-B	gm-pots	R50	100K	rcl
NORMAL	100K-B	gm-pots	R51	10K	rcl
POT1	100K	gm-pots	R52	10K	rcl
UPR.OCTAVE	100K-B	gm-pots			

Board 2

Part	Value	Library	Part	Value	Library
C8	330p	rcl	R10	33K	rcl
C24	1uF	rcl	R23	100K	rcl
C25	1uF	rcl	R30	100K	rcl
C26	10n	rcl	R36	33K	rcl
			R37	1M	rcl
D3	1N4148	gm-diodes	R38	1K	rcl
D4	1N4148	gm-diodes	R39	10K	rcl
D5	1N4148	gm-diodes	R40	1K	rcl
D6	1N4148	gm-diodes	R41	10K	rcl
			R42	68K	rcl
IC2	LM324	linear	R43	33K	rcl
IC3	4013D	40xx	R44	33K	rcl
IC4	4013D	40xx	R45	1M	rcl
			R47	1M	rcl
Q2	2SK30	gm-trans	R53	1M	rcl
Q3	2SK30	gm-trans	R54	1M	rcl