

SPRING REVERB II

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www.op-electronics.com

SPRING REVERB II is a real spring reverb effect pedal based upon Accutronics© Blue Reverb tank, it features controls for Reverb Level, Rate and Depth.

REVERB LEVEL: sets the amount of reverberation vs dry signal

RATE: sets speed of modulation

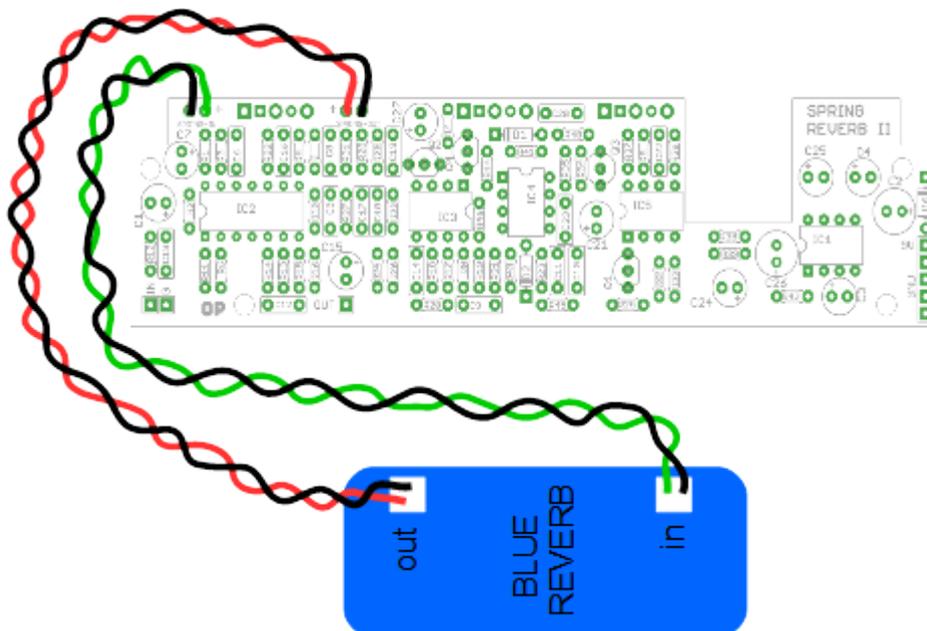
DEPTH: sets depth of modulation

It's possible to connect an external tank too using auxiliary jacks connectors. Spring Reverb II can be equipped with relay footswitch to get noise-free switching.

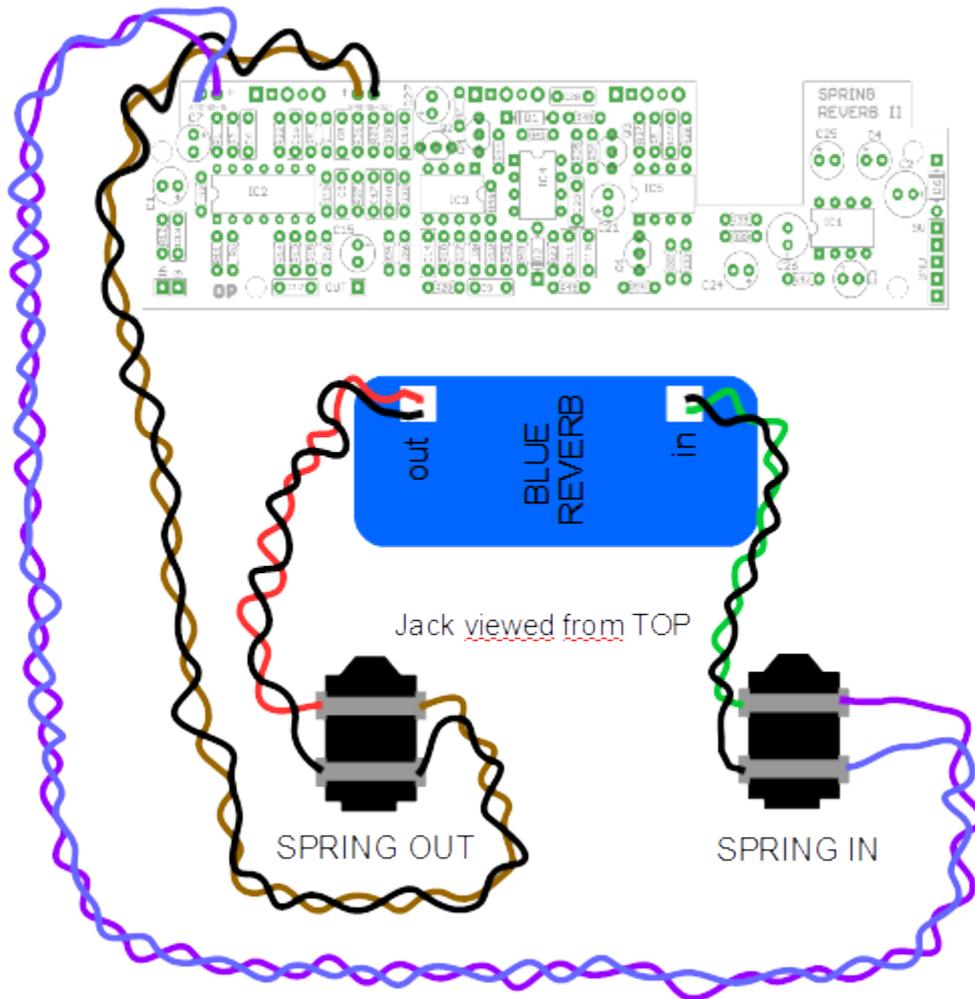
PCB assembly considerations

To save space on PCB, resistors should be vertical mounted. Potentiometers can be PCB mounted on bottom side of the PCB.

INTERNAL TANK wiring



EXTERNAL TANK wiring



Twist cables as in the picture to improve noise rejection. Connect the effect to the external tank using good quality shielded RCA-JACK cables, cheap cables may pick-up noise and raise hum.

REVERB TANKS

Blue Reverb tank used for SPRING REVERB II is AMC2BF3 which stands for:

- 2 springs
- 150 ohm input impedance
- 1500 ohm output impedance
- long decay time (2.0 to 3.5 secs)

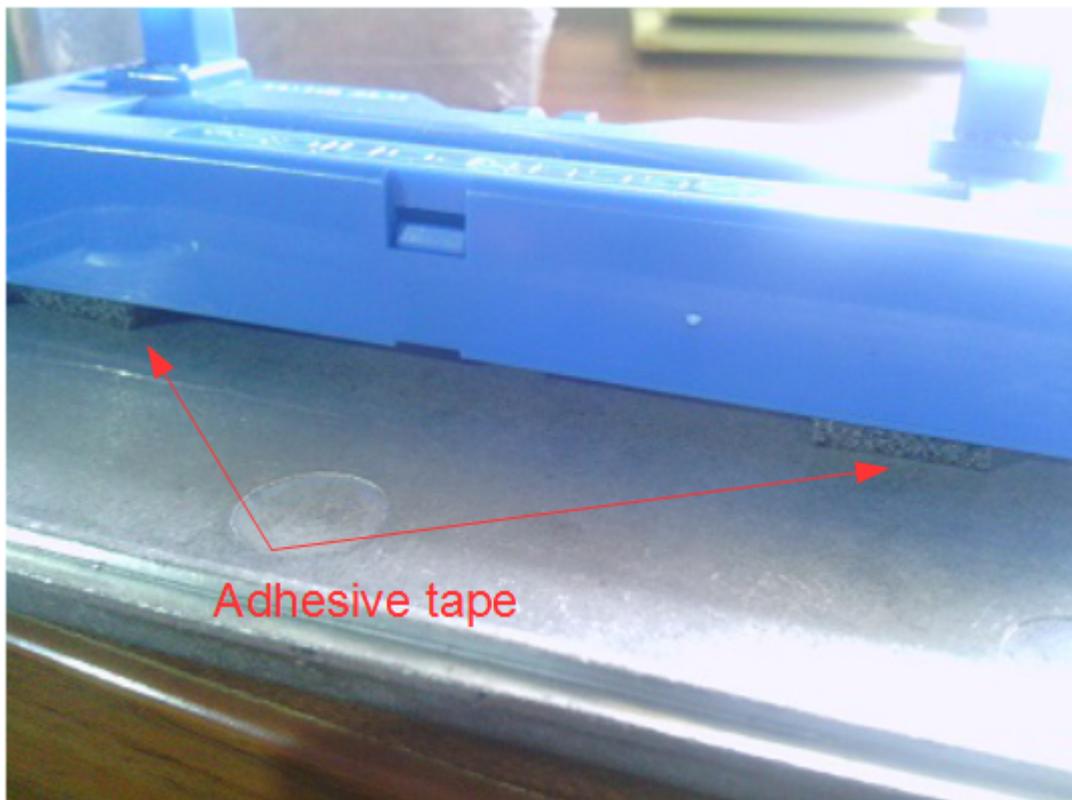
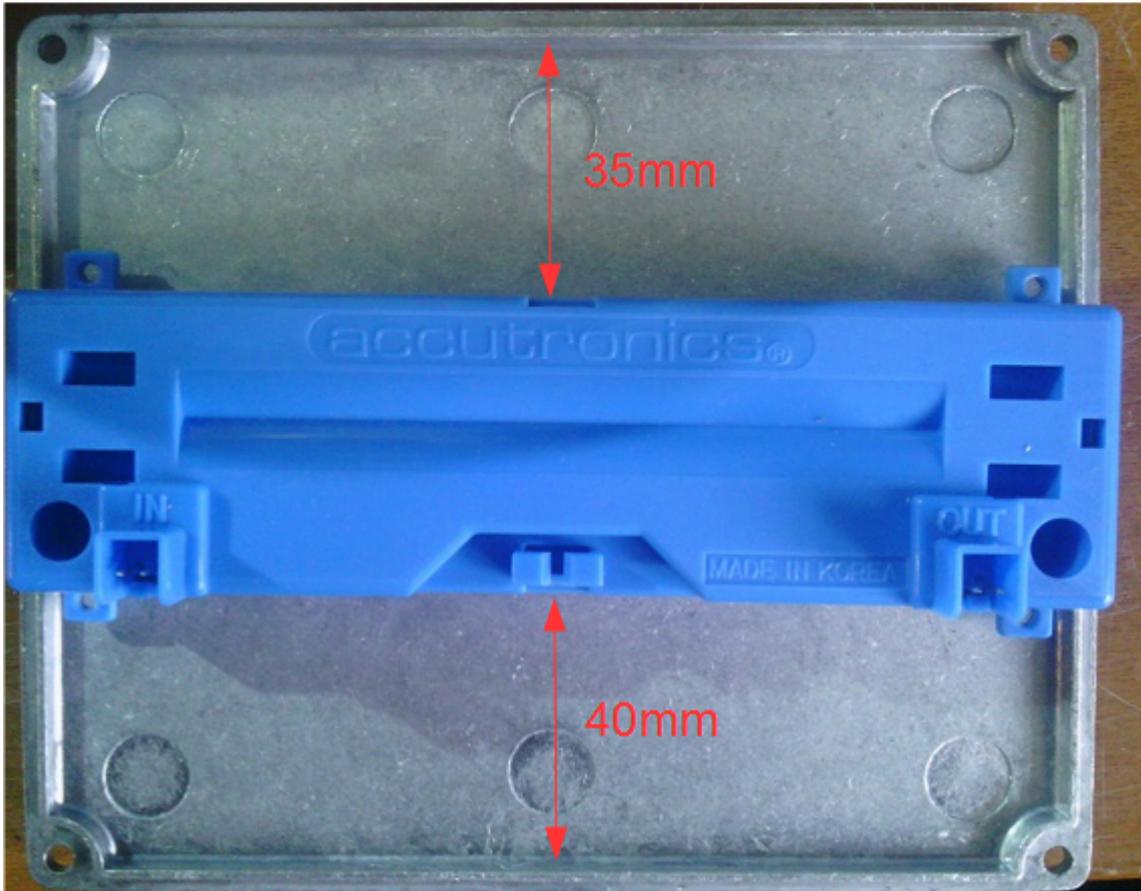
As said external tanks need impedance matching with drive and recovery circuit to work, not all tanks will function properly. We successfully tested 4DB2C1D which sounded great. Go to Accutronics website (www.accutronicsreverb.com) to figure out what the codes mean and get impedance numbers.

INPUT IMPEDANCE: drive stage is able to work with 150 ohm to 250 ohm coils for Type 1 & 4 and 190 ohm to 310 ohm coils for Type 8 & 9

OUTPUT IMPEDANCE: since input impedance of recovery circuit is very high all of the Accutronics tanks with output impedance in the 500 ohm to 12000 ohm range can be used

Fitting Blue Reverb tank inside the enclosure

The board is made to fit inside a 1590XX enclosure. Hard fixing the tank to the enclosure through screws will cause feedback so it's not suggested. Use thick adhesive tape to fix the tank to the bottom side of the enclosure, the tape will work both as damping than floating the enclosure to reduce vibrations. It's important that the tank won't touch the enclosure anywhere:



BYPASS

At least 3 bypass options are available, click on link to download the wiring:

- 1) [Standard footswitch](#): cheap but extremely noisy when engaged
- 2) [Relay with soft footswitch](#): more expensive but dead silent when switching
- 3) No switching at all: leave the unit always on (and that's free!)

PARTLIST

Qty	Value	Parts	Description
12	100K	R2, R6, R9, R11, R13, R14, R15, R17, R31, R38, R39, R46	RESISTOR
14	10K	R10, R20, R21, R22, R23, R24, R25, R27, R28, R29, R30, R32, R33, R35	RESISTOR
1	150K	R43	RESISTOR
2	1M	R12, R36	RESISTOR
1	2.2K	R1	RESISTOR
1	2.7K	R45	RESISTOR
1	220R	R4	RESISTOR
2	220K	R5, R8	RESISTOR
1	220R	R16	RESISTOR
1	22R	R3	RESISTOR
1	330K	R26	RESISTOR
2	33K	R37, R44	RESISTOR
3	4.7K	R7, R40, R41	RESISTOR
1	47K	R34	RESISTOR
1	47R	R42	RESISTOR
2	5.6K	R18, R19	RESISTOR
1	1N4001	D6	Rectifier Diodes
1	100K LIN	RATE	POTENTIOMETER
1	10K LIN	LEVEL	POTENTIOMETER
1	50K LOG	DEPTH	POTENTIOMETER
2	10u	C3, C7	POLARIZED CAPACITOR
2	1u	C15, C27	POLARIZED CAPACITOR
2	220u	C2, C26	POLARIZED CAPACITOR
1	4.7u	C1	POLARIZED CAPACITOR
4	47u	C4, C21, C24, C25	POLARIZED CAPACITOR
1	TL022	IC5	OP AMP
1	TL074P	IC2	OP AMP
4	2N5088	Q1, Q2, Q3, Q4	NPN Transistor
2	1N4148	D1, D2	Fast Switching Diode
1	ICL7660S	IC1	Voltage Converter
1	1.5n	C16	CAPACITOR
1	100p	C23	CAPACITOR
1	10n	C5	CAPACITOR
1	15n	C20	CAPACITOR
1	33n	C22	CAPACITOR
2	4.7n	C9, C17	CAPACITOR
1	470n	C13	CAPACITOR
2	470p	C11, C19	CAPACITOR
4	47n	C6, C8, C12, C14	CAPACITOR
2	8.2n	C10, C18	CAPACITOR
1	V3102	IC4	BBD CLOCK
1	V3207	IC3	BBD

