

Spring Reverb V2.4: Assembly Manual

PCB_1: (The smaller one)

Solder the next resistors:

Amm.	Value	Code	Name on PCB
2	2.2 OHM	<i>Red, red, black, silver, brown</i>	R17, R18
2	47 OHM	<i>Yellow, violet, black, gold, brown</i>	R57, R65
4	470 OHM	<i>Yellow, violet, black, black, brown</i>	R35, R36, R48, R49
2	560 OHM	<i>Green, blue, black, black, brown</i>	R60, R64
4	680 OHM	<i>Blue, gray, black, black, brown</i>	R34, R38, R43, R46
2	1k	<i>Brown, black, black, brown, brown</i>	R5, R61
1	7k32	<i>Violet, orange, red, brown, brown</i>	R41
11	10k	<i>Brown, black, black, red, brown</i>	R2, R3, R4, R10, R12, R15, R16, R20, R22, R28, R29
4	15k	<i>Brown, green, black, red, brown</i>	R39, R44, R45, R50
3	47k	<i>Yellow, violet, black, red, brown</i>	R13, R30, R37
2	56K	<i>Green, blue, black, red, brown</i>	R31, R32
1	82k	<i>Gray, red, black, red, brown</i>	R52
14	100k	<i>Brown, black, black, orange, brown</i>	R1, R21, R25, R26, R27, R40, R42, R47, R51, R53, R56, R62, R63, R67
3	120k	<i>Brown, red, black, orange, brown</i>	R7, R54, R55
2	150k	<i>Brown, green, black, orange, brown</i>	R8, R14
1	200k	<i>Red, black, black, orange, brown</i>	R59
1	220k	<i>Red, red, black, orange, brown</i>	R6
1	560K	<i>Green, Blue, Black, Orange, Brown</i>	R11
7	1M	<i>Brown, black, black, yellow, brown</i>	R9, R19, R23, R24, R33, R58, R66

Solder the diodes taking care about the polarity (black line has to match the white one in the PCB's serigraph):

Qty.	Value	Code	Name on PCB
6	1N4148	1n4148	D1, D2, D3, D4, D5, D7
1	Zener	1n5231	D6

Solder the two ferrite beads (FERRITE+, FERRITE-) passing through a recycled resistor leg.

Solder the next capacitors:

Amm.	Value	Code	Name on PCB
3	47p	47	C5, C12, C17
4	100p	101	C4, C10, C16, C18
1	330p	331	C3
1	1n	1n (Polyester)	C9
1	15n	15n (Polyester)	C8
11	100n	104	C2, C6, C7, C11, C13, C14, C15, C19, C20, C22, C24
3	10µF	10µF	C1, C21, C23

Place the sockets (IC1, IC2, IC3, IC4, IC5) and solder them. Then place the ICs on them taking care of polarity. To do that the mark on front must match the mark on the socket. IC1=TL074, IC5=TL074, IC3=LM13700, IC4=LM13700, IC2=TL072.

Solder the transistors taking care to put them on the right position (the shape must match the drawing on the PCB):

Qty.	Value	Code	Name on PCB
1	2n3904	3904	T1
6	2n3906	3906	T2, T3, T4, T5, T6, T7
1	BC517	517	Q1
1	BC516	516	Q2

Solder the adjust potentiometers:

Qty.	Value	Code	Name on PCB
4	100k	104	Offset 1,2,3,4

Solder the power connector been sure the position is correct (as in the silkscreen)

Solder the three males pin headers (Circuit) by the short part and by the silkscreen side of the PCB. Ensure they are at 90° from the PCB.

Place and solder the RCA connectors (same as the silkscreen on the PCB).

Note:

RCA-OUT pcb (White conector) ---> IN-Tank-Reverb (White conector)
 RCA-IN pcb (Red conector) ---> OUT-Tank-Reverb (Red conector)

PCB_2:

Solder the next resistors:

Amm.	Value	Code	Name on PCB
4	1k	Brown, Black, Red, Gold	R101, R104, R106, R114
1	1k8	Brown, grey, Black, Brown, Brown	R109
1	2.7k	Red, Purple, Black, Brown, Brown	R102
3	10k	Brown, Black, Black, Red, Brown	R103, R108, R112
4	100k	Brown, Black, Black, Orange, Brown	R100, R110, R111, R113
2	1M	Brown, Black, Black, Yellow, Brown	R105, R107

Solder the diodes taking care about the polarity (black line has to match the white one in the PCB's serigraph):

Qty.	Value	Code	Name on PCB
1	1N4148	1n4148	D100

Solder the next capacitors:

Amm.	Value	Code	Name on PCB
2	100n	104	C101, C102
1	680n	684	C100
1	10µF	10µF	C103

Place the sockets (IC100, IC101) and solder them. Then place the ICs on them taking care of polarity. To do that the mark on front must match the mark on the socket.
IC100=LM3914N, IC101=TL072.

Place and solder the Three Females Pin Headers (Panel To) by the opposite side of the faders, ensuring it is 90° from PCB.

Put the spacer on the two holes by the male side and fix the with the two nuts.

Place the faders, ensure they are at 90° from the PCB.and then solder them.

Place the potentiometer HPF Y MIX, don't solder it.

Cut the little ledge on all pots with cutting plyers as pictured:



Place the minijack or the Banana (CV1, CV2, IN1, IN2, MIX_CV, OUT_MIX, WET), don't solder it.

Put LEDs on place: (LED01 Rojo), (LED02, LED03 Amarillo), (LED04, LED05, LED06, LED07 Verde), (Duo...led, positive-> long leg) respecting the polarity but don't solder it until you screw the front panel.

Place the front panel, screw the minijacks or bananas, potentiometers and proceed to solder them.

Solder the LEDs on the right height.

Assembly PCB1 and PCB2. (PCB2 ---> power connector DOWN, RCA connectors UP).

Screw them with the two provided screws.

Power ribbon cable:

The blue wire (negative) correspond to the pin number one of the connectors. The pin number one is indicated with a small triangle.

Adjustment procedure:

We are going to calibrate the offset of all four VCAs. Like this we will avoid CV signal to leak into audio signal.

Unplug all cables from front panel, unplug also reverb tank (RCA IN, OUT) from module. Plug power connector.

1-Plug an oscillator in "CV_IN_1". Set the slider totally up. Conect TP1 to an audio output(turn the volume up as the signal is pretty low, be carefull when conecing/desconecting, you might damage your speaker). Turn the trimmer above tp1 until you hear as less as possible the oscillator.

2-Plug an oscillator in "CV_IN_2". Set the slider totally up. Conect TP2 to an audio output(turn the volume up as the signal is pretty low, be carefull when conecing/desconecting, you might damage your speaker). Turn the trimmer above tp2 until you hear as less as possible the oscillator.

3-Plug an oscillator in "MIX_CV". Set the potentiometer totally counterclockwise (DRY position). Conect TP3 to an audio output(turn the volume up as the signal is pretty low, be carefull when conecing/desconecting, you might damage your speaker).

Turn the trimmer above tp3 until you hear as less as possible the oscillator.

4-Plug an oscillator in "MIX_CV". Set the potentiometer totally counterclockwise (DRY position). Conect TP4 to an audio output(turn the volume up as the signal is pretty low, be carefull when conecing/desconecting, you might damage your speaker).

Turn the trimmer above tp4 until you hear as less as possible the oscillator.

Block diagram:

