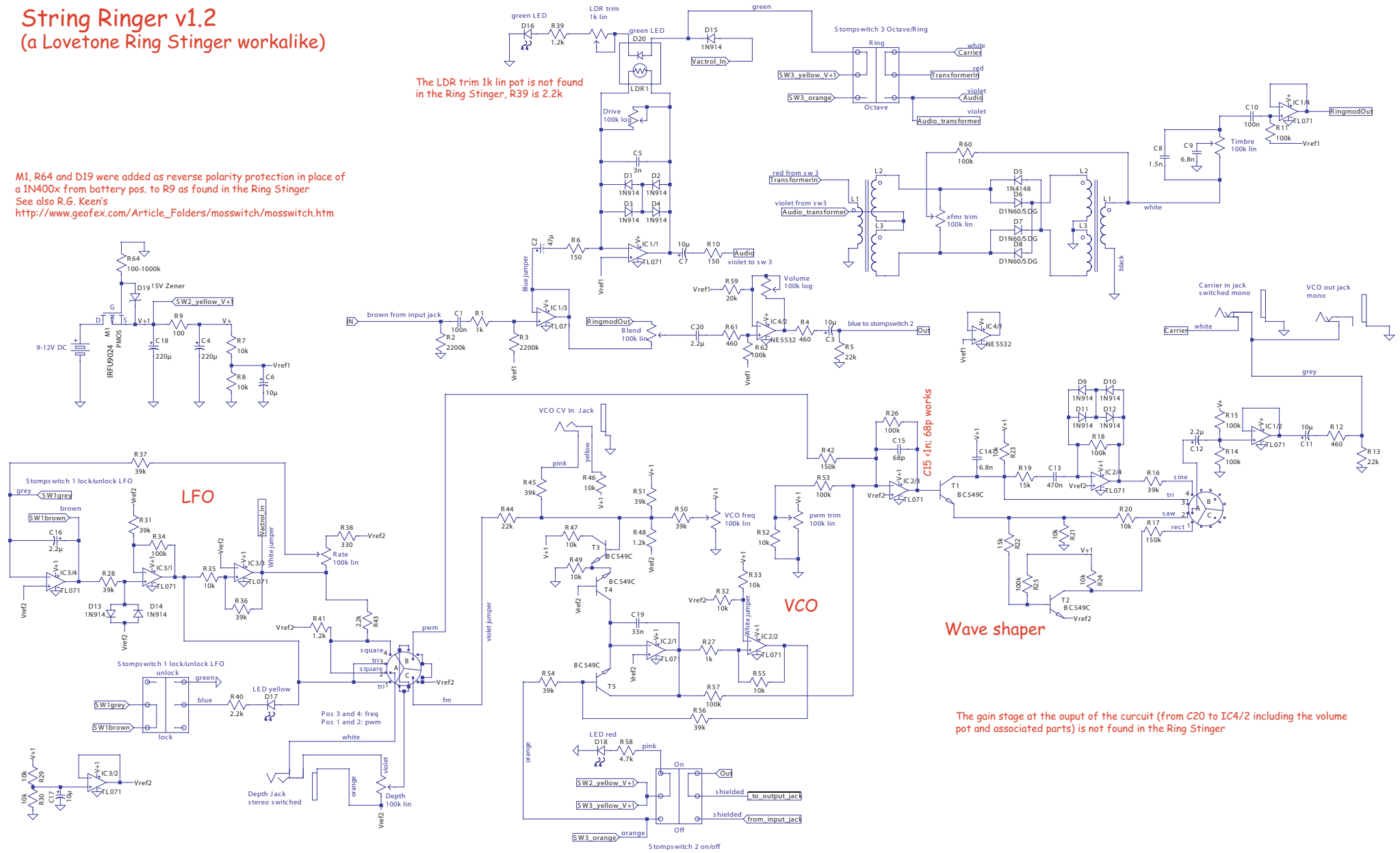


# String Ringer v1.2 (a Lovetone Ring Stinger workalike)

M1, R64 and D19 were added as reverse polarity protection in place of a 1N400x from battery pos. to R9 as found in the Ring Stinger  
See also R.G. Keen's  
[http://www.geofex.com/Article\\_Folders/mosswitch/mosswitch.htm](http://www.geofex.com/Article_Folders/mosswitch/mosswitch.htm)



Thanks to soundcollage and toneman for their continuous support!

drawn by Markus W. 12-05

FOR PERSONAL USE ONLY!

The "Ring Stinger" is a ring modulator pedal by Lovetone. The "String Ringer" is based on this circuit and believed to operate similarly. However, any and all rights by Lovetone or others in the mark "Ring Stinger" remain the property of that owner.

# Parts

Part	Value
C1	100nF
C10	100nF
C11	10µF
C12	2.2µF
C13	470nF
C14	6.8nF
C15	68pF
C16	2.2µF
C17	10µF
C18	220µF
C19	33nF
C2	47µF
C20	2.2µF
C3	10µF
C4	220µF
C5	3nF
C6	10µF
C7	10µF
C8	1.5nF
C9	6.8nF
D1	1N4148
D10	1N4148
D11	1N4148
D12	1N4148
D13	1N4148
D14	1N4148
D15	1N4148
D16	Green LED
D17	Yellow LED
D18	Red LED
D19	BZX79C15
D2	1N4148
D20	Green LED
D3	1N4148
D4	1N4148
D5	1N34
D6	1N34
D7	1N34
D8	1N34
D9	1N4148
IC1	TL074
IC2	TL074
IC3	TL074
IC4	NE5532
LDR1	LDR
M1	IRFU9024
R1	1k
R10	150
R11	100k
R12	460
R13	22k
R14	100k
R15	100k
R16	39k
R17	150k

R18	100k
R19	15k
R2	2200k
R20	10k
R21	10k
R22	15k
R23	10k
R24	10k
R25	100k
R26	100k
R27	1k
R28	39k
R29	10k
R3	2200k
R30	10k
R31	39k
R32	10k
R33	10k
R34	100k
R35	10k
R36	39k
R37	39k
R38	330
R39	1.2k
R4	460
R40	2.2k
R41	1.2k
R42	150k
R43	2.2k
R44	22k
R45	39k
R46	10k
R47	10k
R48	1.2k
R49	10k
R5	22k
R50	39k
R51	39k
R52	10k
R53	100k
R54	39k
R55	10k
R56	39k
R57	100k
R58	4.7k
R59	20k
R6	150
R60	100k
R61	460
R62	100k
R64	100k-1M
R7	10k
R8	10k
R9	100
S1	3P4T Lorlin CK
S2	3P4T Lorlin CK

T1	BC549C
T2	BC549C
T3	BC549C
T4	BC549C
T5	BC549C
Transformer	LT44
Transformer	LT44
XFMR TRIM	100k lin, Vishay 43P
PWM TRIM	100k lin, Piher PT10
LDR TRIM	1k lin, Vishay 75T
DEPTH	100k lin, Bourns 91
DRIVE	100k log, Bourns 91
FREQ	100k lin, Bourns 91
RATE	100k lin, Bourns 91
TIMBRE	100k lin, Bourns 91
VOLUME	100k log, Bourns 91

## Some more notes:

\* For the LDR/LED combo a Silonex NSL 19-M51 LDR and a 250 mcd green LED was found to work. Lower LDR on resistance allows for modulation at lower gain settings in octave mode.

\* Manufacturer's names are given for some parts solely to indicate compatibility with the layout

## Trimming hints:

PWM trimming:  
VCO wave shape depends on PS voltage.

\* From the Ring Stinger manual: Plug in amp into VCO jack. Warning: The VCO output is much higher than instrument level, so turn down your amp volume first. Set VCO freq. to ~ 12 o'clock, Depth to zero and the VCO selector switch to sine. Slowly turn the PWM trim pot to find the "null point" (the setting which gives the mellowest sound). Provided you use the same (regulated) PS with this pedal no further adjustment should be necessary.

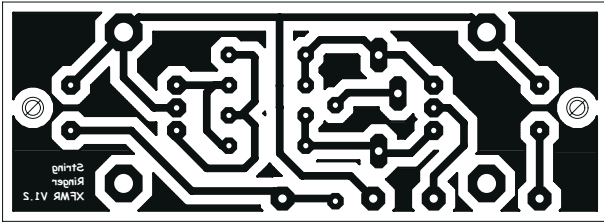
\* Alternatively: Connect VCO output to a scope, set the VCO selector switch to square wave, lock LFO and adjust the PWM trim pot until you get a nice square wave. Turn on LFO in PWM square mode, set the rate to "slow" (1-2Hz) and check if you get a pulse that flips with the LFO.

## XFMR trimming:

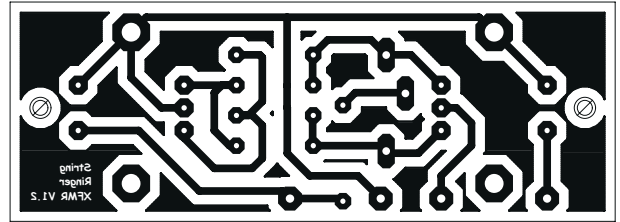
\* Connect your amp to the output. Turn up the volume until you hear the VCO. Adjust the XFMR trim pot until the VCO bleed-through is minimised (should be near 50% travel). Alternatively, this obviously can also be done with a scope.

## LDR trimming:

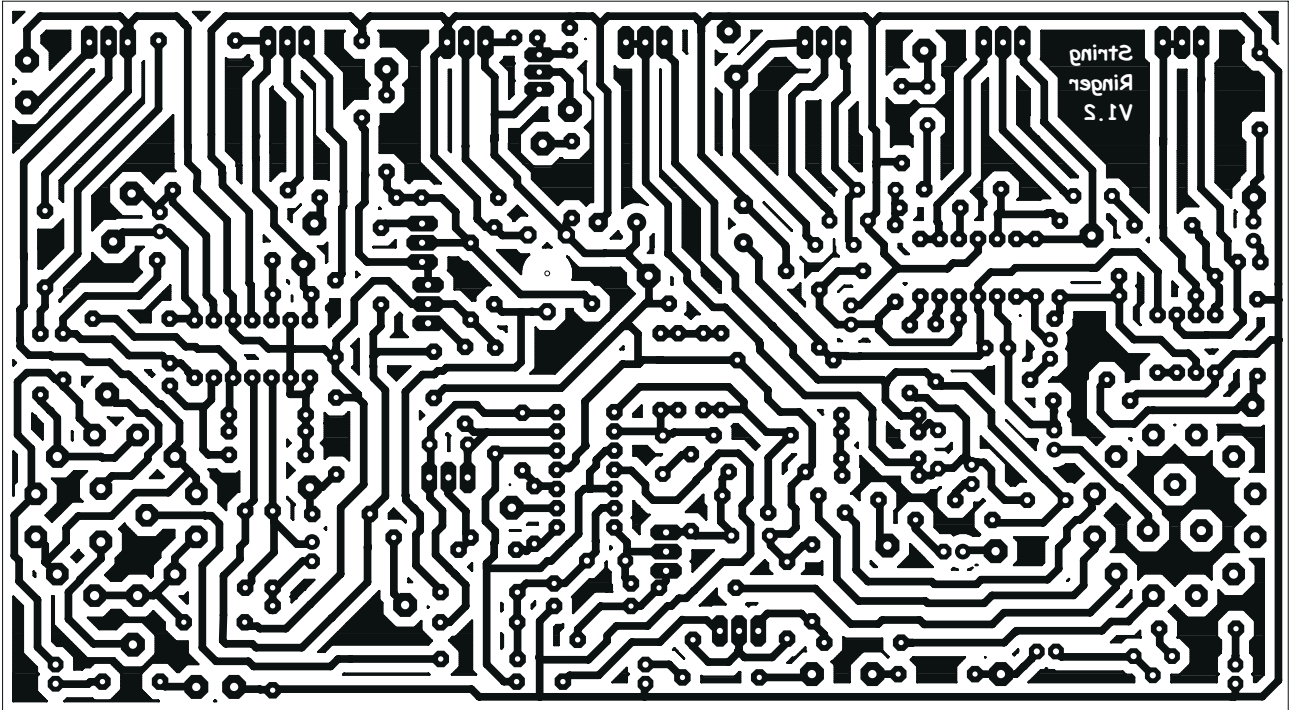
\* Lower resistance of the LDR trim pot allows for modulation at lower gain settings when in octave mode.



29 mm

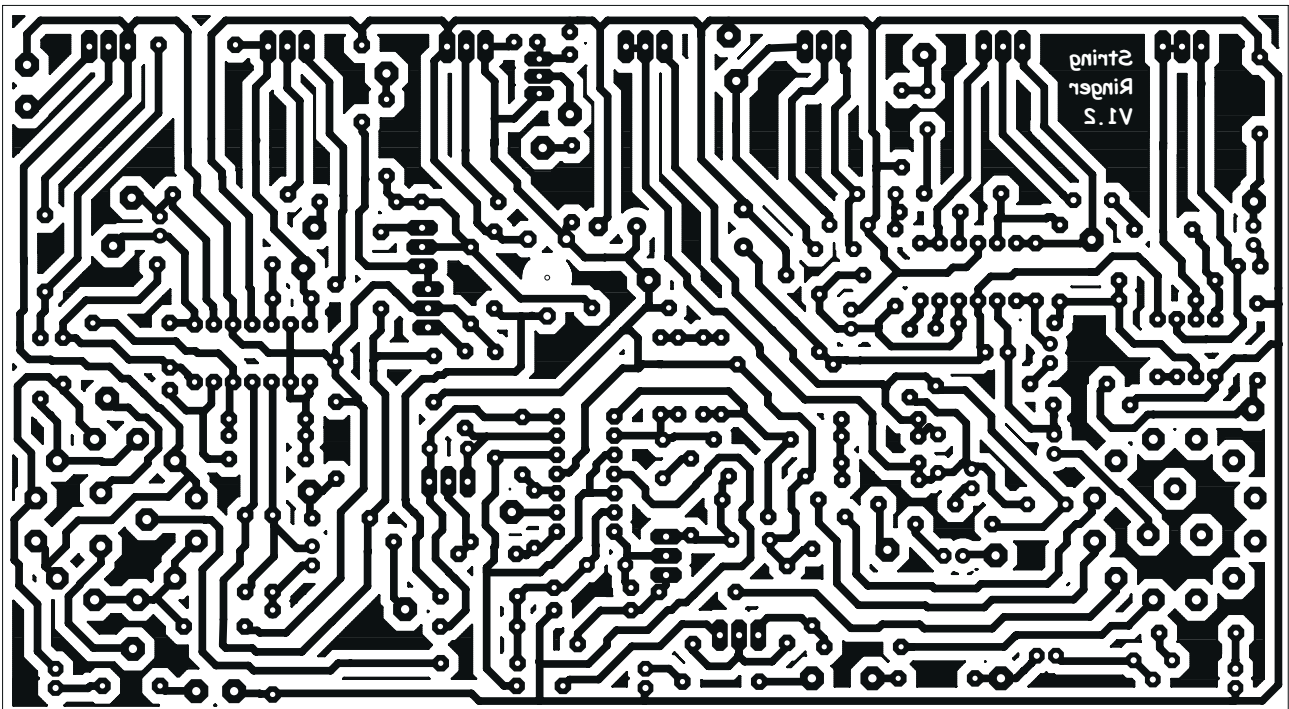


80mm

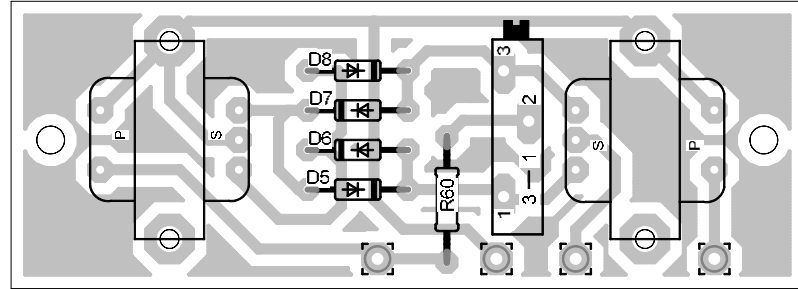


94 mm

170 mm



XFMRTRIM



WHITE BLACK VIOLET RED

