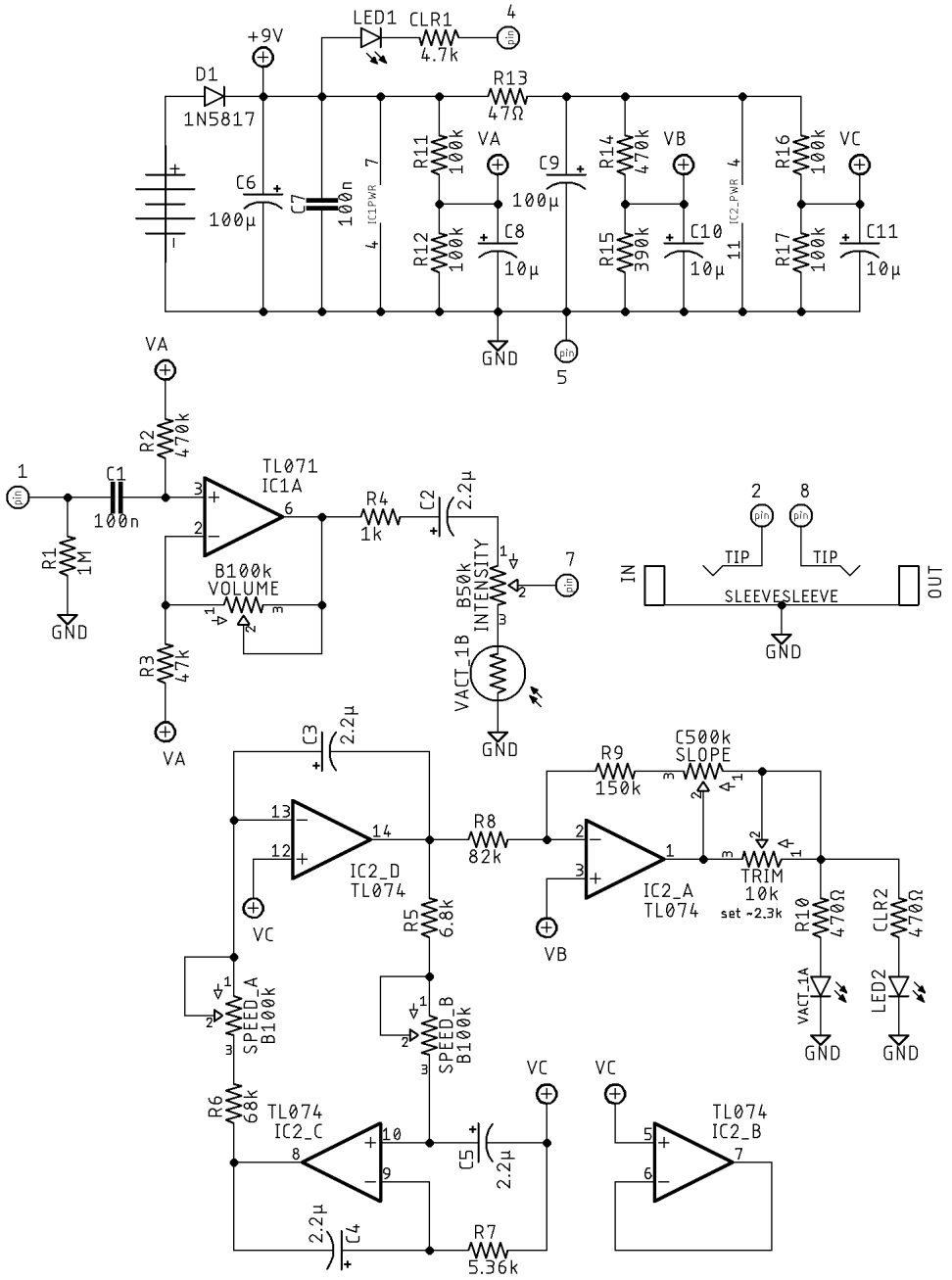
HEX TREM

DESCRIPTION

The HEX TREM is an optical tremolo modeled after smooth tremolos on vintage tube amps and based on the Voodoo Lab Tremolo II. It features a wide range of speeds and intensities thanks to the slope pot that varies the waveform from smooth to stutter.

SCHEMATIC



BOM

Resistors

R1	1M
R2	470k
R3	47k
R4	1k
R5	6.8k
R6	68k
R7	5.36k
R8	82k
R9	150k
R10	470Ω
R11	100k
R12	100k
R13	47Ω
R14	470k
R15	390k
R16	100k
R17	100k
CLR1	4.7k
CLR2	470Ω

Capacitors

C1	100n
C2	2.2µ
C3	2.2µ
C4	2.2µ
C5	2.2µ
C6	100µ
C7	100n
C8	10µ
C9	100µ
C10	10µ
C11	10µ

Semiconductors

D1	1N5817
IC1	TL071
IC2	TL074
LED1	3 or 5mm
LED2	3 or 5mm
VACT_1	VTL5C3

Electromechanical

INTENSITY	B50k
SLOPE	C500k
SPEED	B100k
TRIM	10k
VOLUME	B100k

Notes

Set the trim pot to 2.3k. C7 should be ceramic type. You can also roll your own vactrol using a LDR and 5mm diffused LED. Start with a red or yellow LED along with a GL5517 LDR.

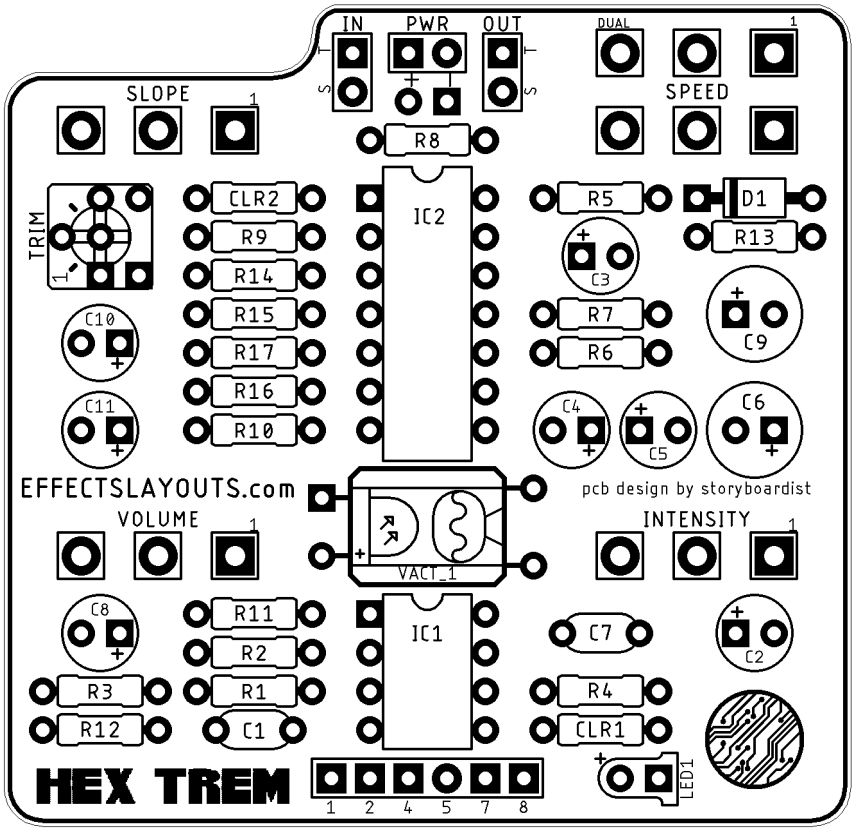
The original circuit featured a single quad op amp with both audio signal and LFO in the same chip. Here the two signals are separated to avoid any unnecessary noise.

SHOPPING LIST

Part	**Type** (suggested)	**Quantity**
47Ω	¼ watt metal or carbon film	1
470Ω	¼ watt metal or carbon film	2
1k	¼ watt metal or carbon film	1
4.7k	¼ watt metal or carbon film	1
5.36k	¼ watt metal or carbon film	1

6.8k	¼ watt metal or carbon film	1
47k	¼ watt metal or carbon film	1
68k	¼ watt metal or carbon film	1
82k	¼ watt metal or carbon film	1
100k	¼ watt metal or carbon film	4
150k	¼ watt metal or carbon film	1
390k	¼ watt metal or carbon film	1
470k	¼ watt metal or carbon film	2
1M	¼ watt metal or carbon film	1
100n	Ceramic	1
100n	Film	1
2.2µ	Electrolytic (25v+)	4
10µ	Electrolytic (25v+)	3
100µ	Electrolytic (25v+)	2
1N5817	Schottky rectifier diode	1
LED	3 or 5mm	2
Vactrol	VTL5C3	1
10k trim	Trimpot	1
B50k	16mm right angle PC mount potentiometer	1
B100k	16mm right angle PC mount potentiometer	2
C500k	16mm right angle PC mount potentiometer	1

LAYOUT



DRILL TEMPLATE (125B)