

DIGDUG

FX TYPE: SEQUENCED WAH

PCB artwork ©2010 madbeanpedals

Release date: 04.07.10

Revised 05.26.11

The **DigDug** is a sequenced wah effect. It works by sending the guitar signal into an inductor-less T-style filter. This feeds into a eight stage sequencer which is controlled by a Speed knob, and eight additional knobs to set the signal strength of each step. The sequence can be randomized by an additional switch.

Controls

FILTER: This allows you to control the frequency peak of the stuck wah.

SPEED: Controls the speed of the sequencer.

STEPS: This allows you to select 4, 6 or 8 steps for the sequencer.

POT1-8: These control the signal volume at each step of the sequencer.

Build Notes

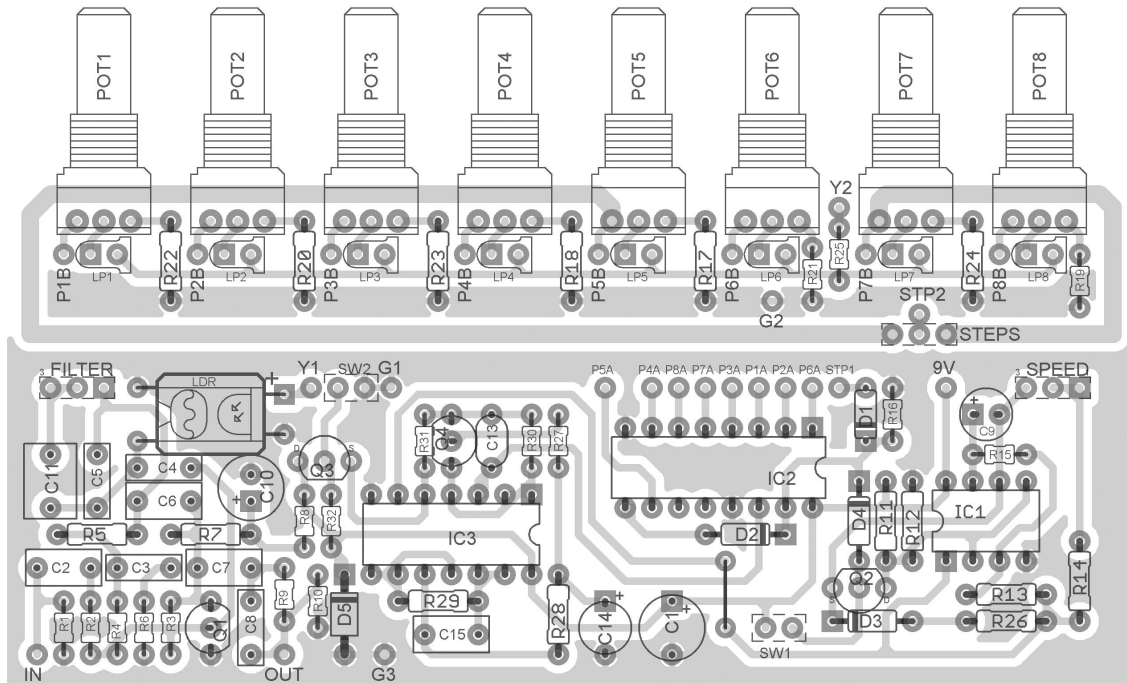
This is a difficult project. It involves two PCBs with a lot of off-board wiring. It is important to take a lot of care in wiring the two PCBs correctly.

The range of control for POT1-8 in the sequencer is somewhat limited. You should expect to have volume control in the last third of the pots rotation. You may be able to expand this region by using 100kC pots instead of 100kB, however this has not been tested.

The daughter PCB is set up for 9mm Alpha potentiometers. The spacing between these pots is very close, so finding knobs that will fit the allotted space may be a challenge. You can find the Alpha pots here: <http://www.smallbearelec.com/Detail.bok?no=693>

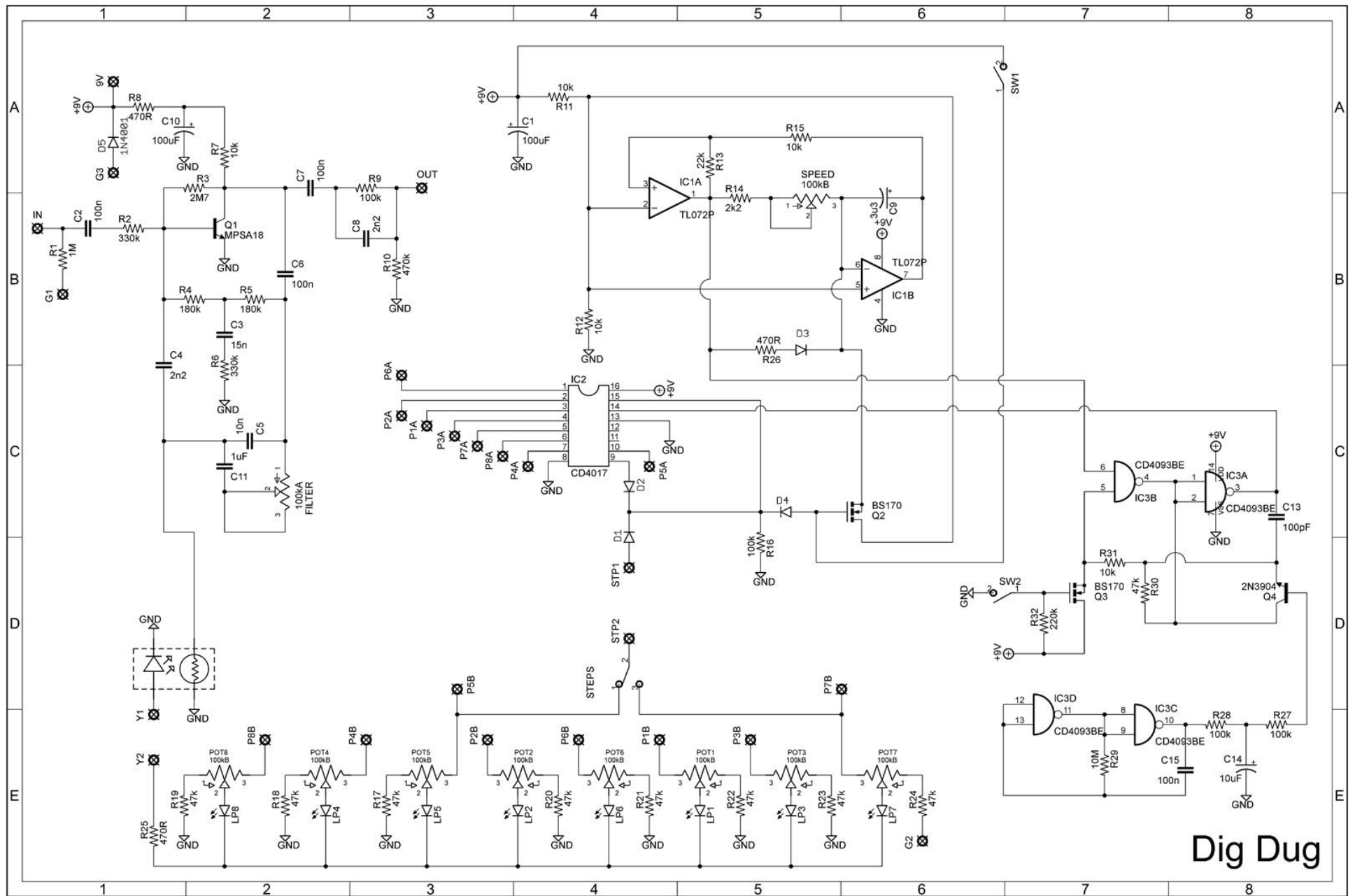
LAYOUT DIAGRAM

This PCB will fit in a 1590BB enclosure (horizontal orientation)



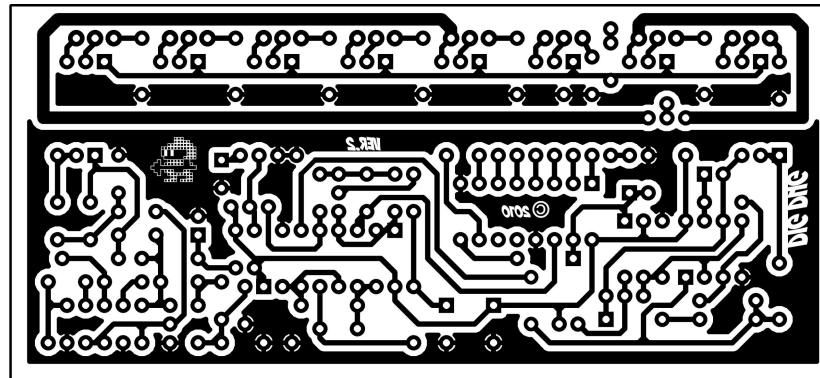
BILL OF MATERIALS

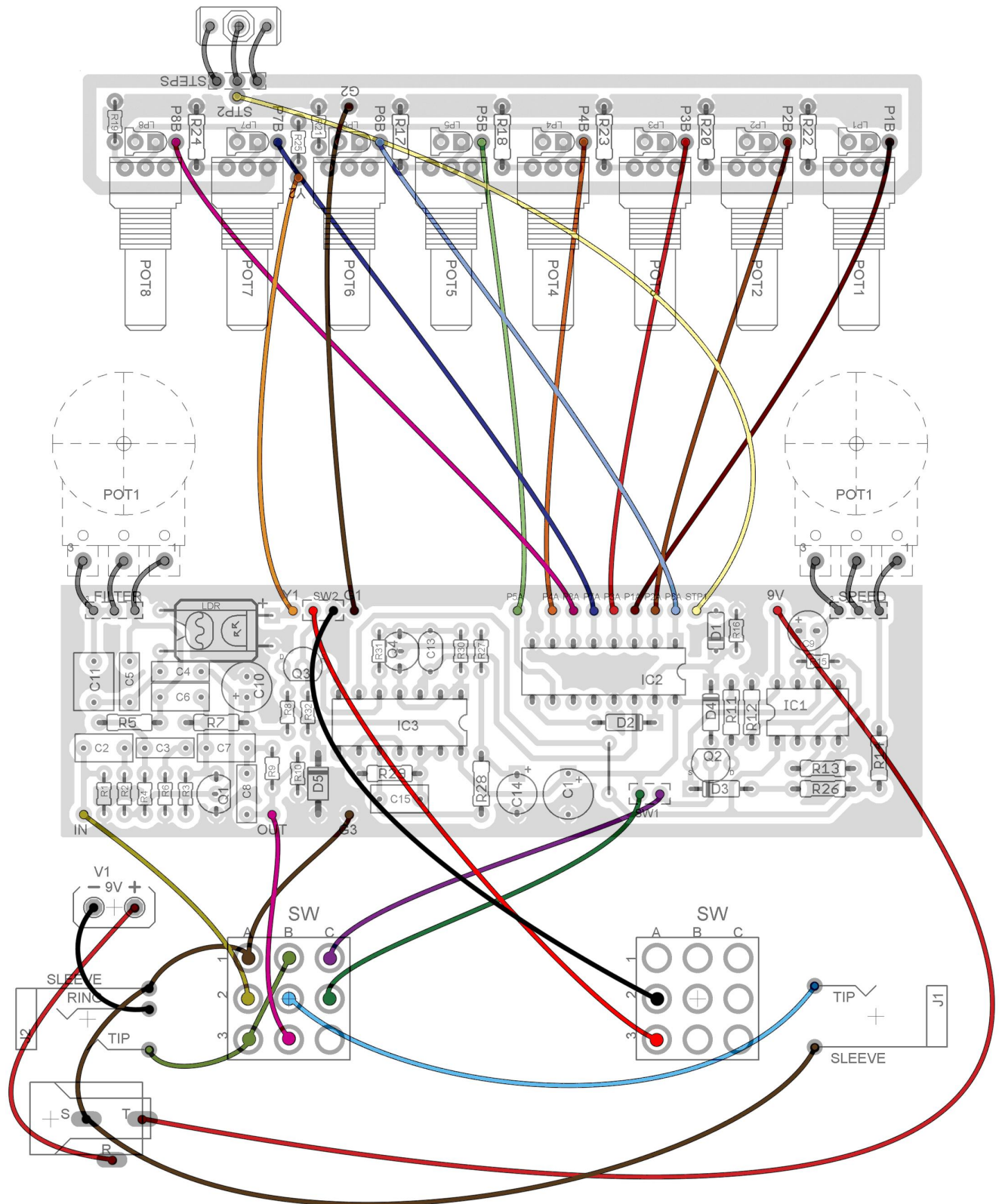
Resistors		Resistors		Caps		Transistors	
R1	1M	R17	47k	C1	100uF	Q1	MPSA18
R2	330k	R18	47k	C2	100n	Q2, Q3	BS170
R3	2M7	R19	47k	C3	15n	Q4	2N3904
R4	180k	R20	47k	C4	2n2	Vactrol	
R5	180k	R21	47k	C5	10n	LDR	VTL5C9
R6	330k	R22	47k	C6	100n	Diodes	
R7	10k	R23	47k	C7	100n	D1 - D5	1N4148
R8	470R	R24	47k	C8	2n2	D5	1N4001
R9	100k	R25	470R	C9	3u3	LP1 - 8	LED 3mm
R10	470k	R26	470R	C10	100uF	ICs	
R11	10k	R27	100k	C11	1uF	IC1	TL072P
R12	10k	R28	100k	C13	100pF	IC2	CD4017
R13	22k	R29	10M	C14	10uF	IC3	CD4093BE
R14	2k2	R30	47k	C15	100n	Switches	
R15	10k	R31	10k			STEPS	On/Off/On
R16	100k	R32	220k			Pots	
						POT1 - 8	100kB
						FILTER	100kA
						SPEED	100kB

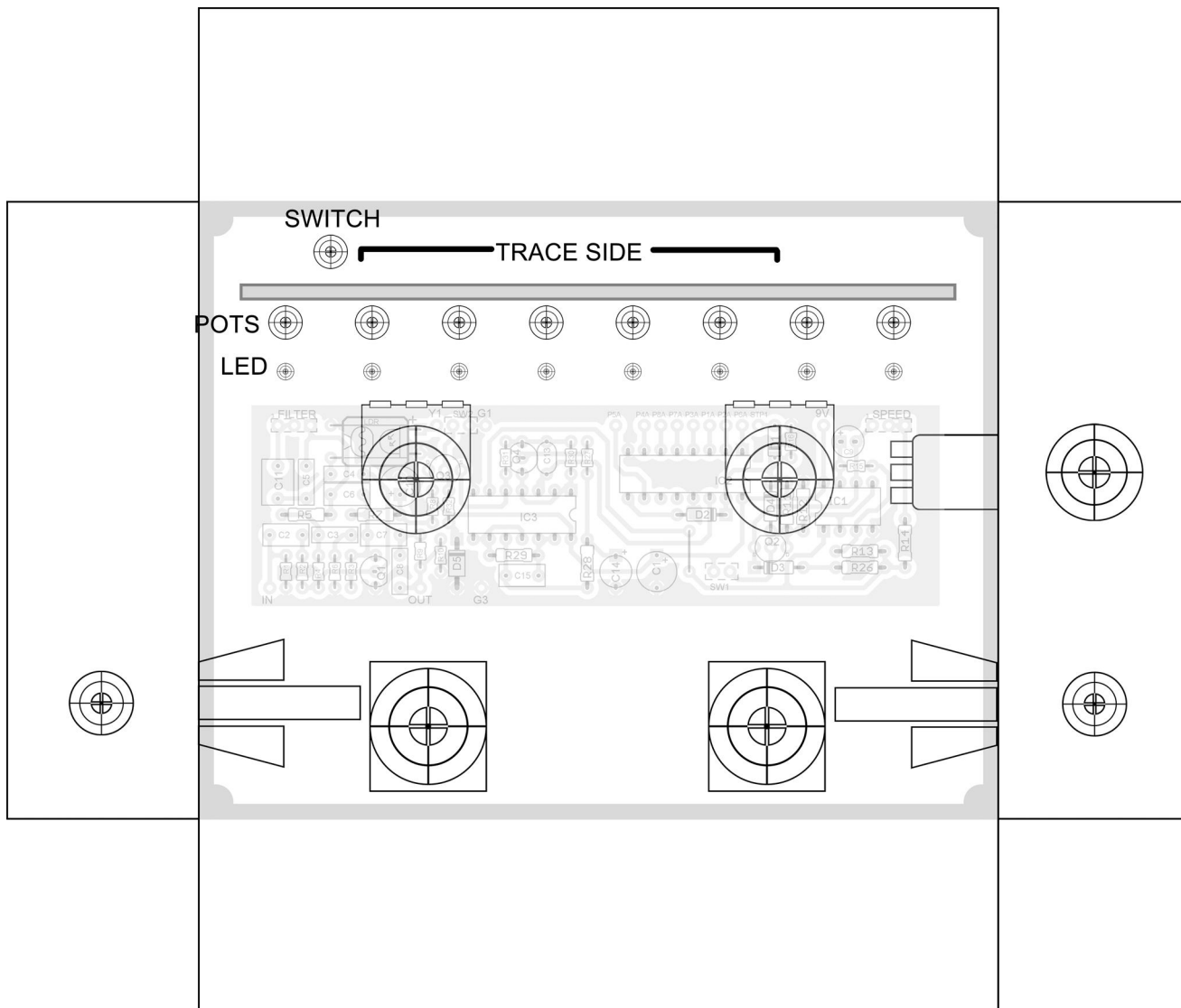


SINGLE SIDED VERSION FOR ETCHING

4.32"W x 1.96"H (including borders)







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