



Pulse Generator For Stepper Controller Using Ad654 Frequency to Voltage Converter

This stepper pulse generator project is an easy solution for stepper controller. It's very important tool once need to drive stepper in standalone mode. It generates square waves pulses frequency range 0-50Khz. This project has multiple features which is must for stepper controller. It has on board frequency generator with wide span of frequency, Slide switch for direction control and jumper for enable or disables the stepper controller. AD654 is heart of the project and its generate the pulse for stepper controller, output frequency 0-50Khz, higher frequency output is possible by changing CT capacitor value connected between pin 6 and 7. Refer data sheet of AD654 for alteration. The AD654 is a monolithic Voltage to frequency converter consisting of an input amplifier, a precision oscillator system, and a high current output stage. The board has on board LM317 regulator which can take supply 7-36V DC. A on board LED for power indication, PR2 trimmer potentiometer to set the frequency. PR1 is to fine tune the frequency, slide switch SW1 to change the direction of stepper motor, J1 Jumper to enable or disable the stepper controller. All outputs are TTL level. Change the R3 to 0E if stepper controller has opto-coupler input.

Features

Supply 7-36V DC

Frequency Output 0-50Khz (TTL Level)

Direction Signal TTL Level, Change R3 to 0 Ohms for direct 5V Output

Enable- GND or 5V

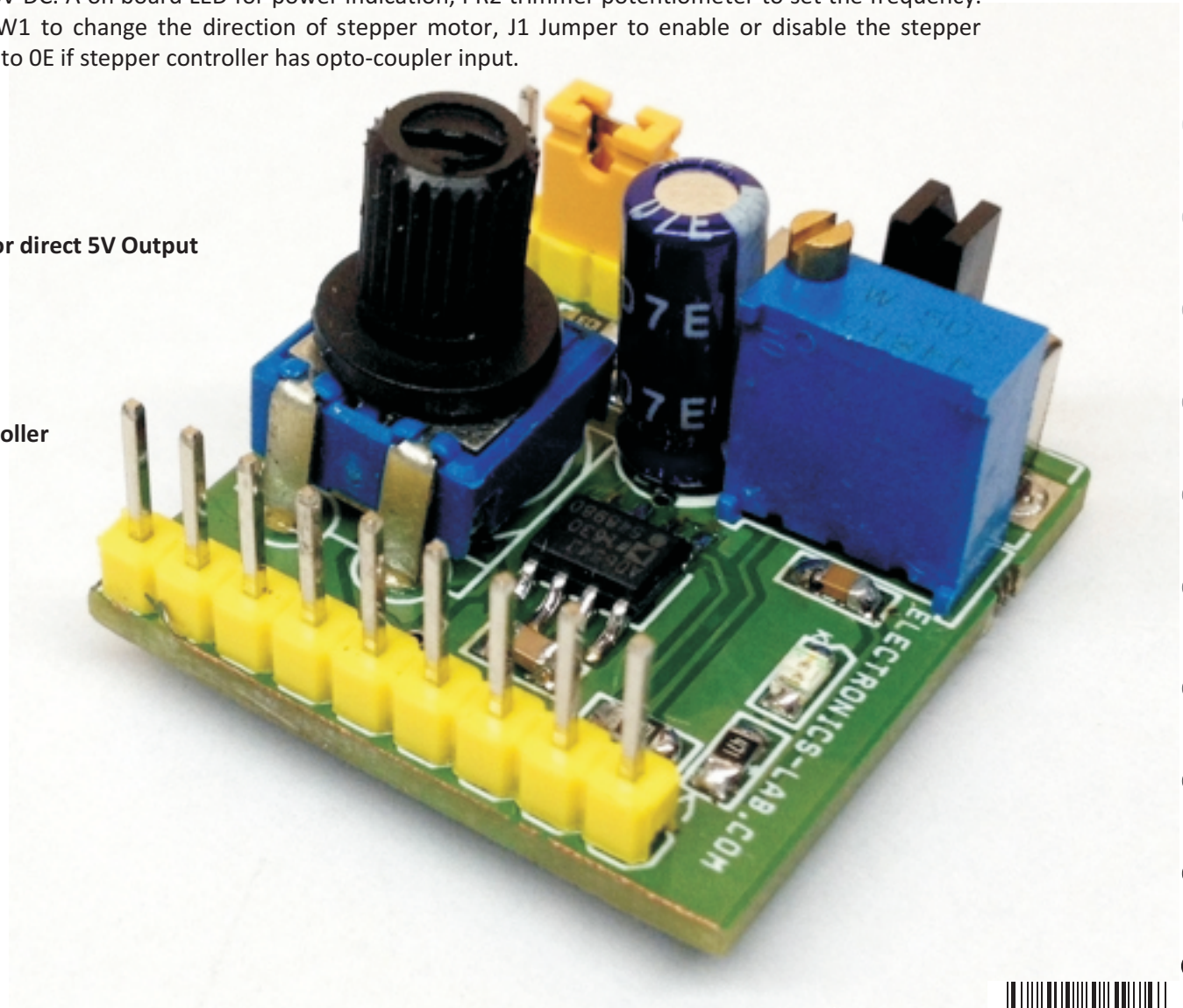
D1 Power LED

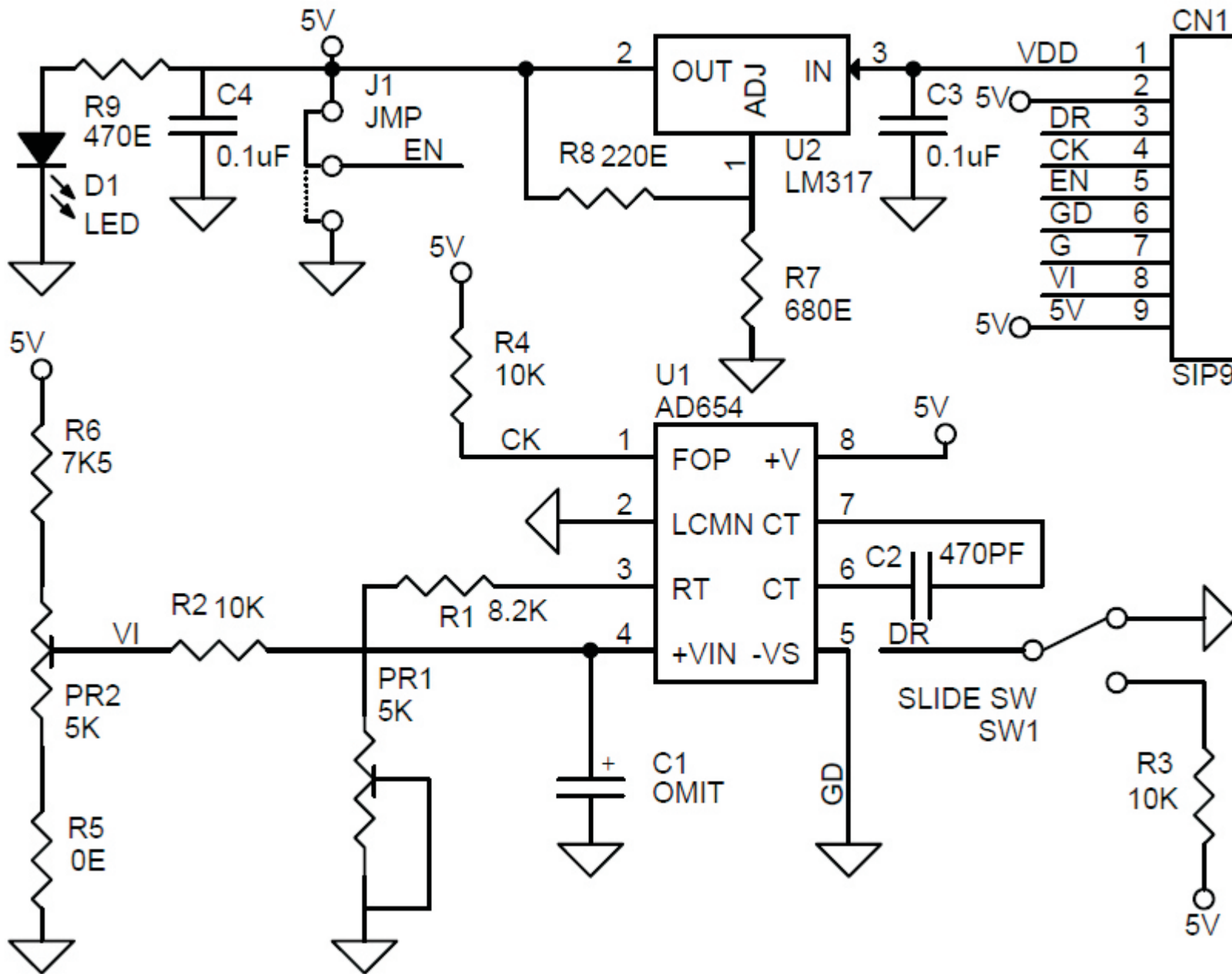
PR1 Fine Tune The Output Frequency

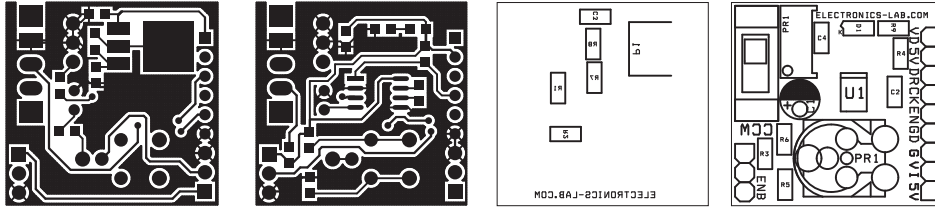
PR2 Frequency Adjust

SW1 Slide Switch for Direction

J1- Jumper for Enable or disable the stepper Controller







BOM

SR.	QNTY.	REF.	DESC.
1	1	CN1	9 PIN HEADER CONNECTOR
2	1	C1	OMIT
3	1	C2	470PF SMD 0805
4	2	C3,C4	0.1uF SMD 0805
5	1	D1	LED SMD 0805
6	1	J1	JMP
7	1	PR2	5K H-TRIMMER POT
8	1	R1	8.2K SMD 0805
9	3	R2,R3,R4	10K SMD 0805
10	1	R5	0E SMD 0805
11	1	R7	680E SMD 0805
12	1	R8	220E SMD 0805
13	1	R9	470E SMD 0805
14	1	SW1	SLIDE SWITCH
15	1	U1	AD654 SO8
16	1	U2	LM317 SMD DPAK
17	1	R6	7K5 SMD 0805
18	1	PR1	5K VERTICAL TRIMPOT

