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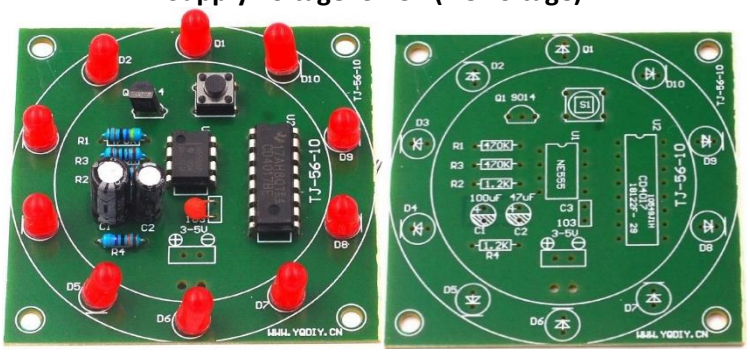
STS-902 ELECTRONIC LUCKY ROTARY MODULE WHEEL TURNTABLE FORTUNE DIY KIT

Supply voltage: 3v-5v (DC voltage)

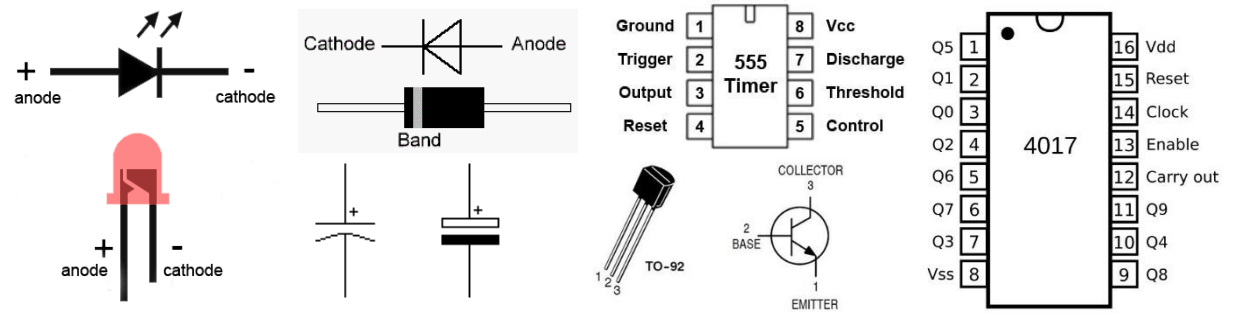


PCB Full Assembly
(Dimensions: 58 * 58mm)

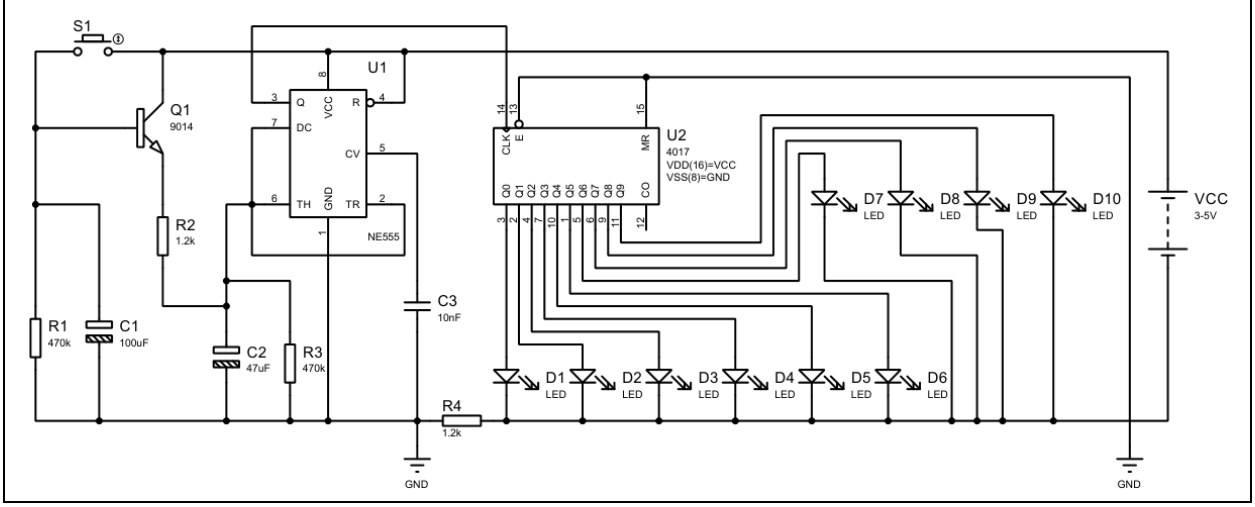
Component List:

NE555 IC x 1	= **U1**
CD4017 IC x 1	= **U2**
LED 5mm x 10	= **D1-D10**
Push Button x 1	= **S1**
CS9014 Transistor x1	= **Q1**
100uF Electronic Capacitor x1	= **C1**
47uF Electronic Capacitor x1	= **C2**
10nF Ceramic Capacitor x 1	= **C3**
470kΩ Resistor x 2	= **R1 & R3**
1.2kΩ Resistor x 2	= **R2 & R4**
PCB Circuit Board x 1	

Components Symbol



Schematic Diagram



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Introduction:

The lucky turntable is a tool to predict where the rotating disc will stop when it stops. It can also be used as a number estimation game, electronic dice, lottery machine, etc. The electronic lucky turntable achieves the same function in an electronic way. This kit arranges 10 LEDs into a circle.

When the button is pressed, each LEDs will glow in a turn. At the beginning, the flow speed is very fast, it seems like that all LEDs flashing together. Then the flow speed will become slower and finally stop on a certain LED. The last LED that lights up were the result of the game.

Circuit Operation:

The circuit is mainly composed of a pulse generator and a decode counter circuit. The pulse generator consists of NE555 and peripheral components to form a Multivibrator. When the button S1 is pressed, Q1 Transistor is turned ON and pin 3 (OUT) of NE555 will output the pulses. The 10 output terminals of CD4017 (Q0-Q9) will output the high levels to turn ON the 10 LEDs to emit light in turn.

After the S1 button is released, Q1 transistor will not be cut off immediately due to the presence of capacitor C2. As the voltage across C2 drops, the conduction process of Q1 transistor will gradually weaken, the frequency of the output pulse of pin 3 will slow down, and the frequency of LED movement will also follow to slow down.

Finally, when the C2 capacitor fully discharged. The Q1 transistor will cuts off, pin 3 (OUT) of NE555 will no longer output the pulses, and the LED will stops moving. An electronic “dice” or “lottery” process is thus completed. The R2 resistor decides the speed of LED movement and C2 transistor decides the time to wait for the LEDs to stop.

Pack list:

COMPONENTS	QUANTITY	REFERENCE
NE555 IC	1	U1
CD4017 IC	1	U2
LED 5mm	10	D1-D10
Push Button	1	S1
CS9014 Transistor	1	Q1
100uF Electronic Capacitor	1	C1
47uF Electronic Capacitor	1	C2
0.01uF / 10nF Ceramic Capacitor	1	C3
470kΩ Resistor	2	R1 & R3
1.2kΩ Resistor	2	R2 & R4
PCB Circuit Board	1	-
TOTAL ITEM	22	-