

Bill of Materials

Part	Value	Part #
Capacitor	10nF 30VAC	MMK5103K50J01L4BULK
Capacitor	100nF 30VAC	MMK5104K50J01L4BULK
Capacitor	10uF 25VDC	UVR1E100MDDITD
LED	5mm LED	
Jack	3.5mm Mono	PJ-3001F
Resistor	1k 1/4W	MF1/4DCT26A1001F
Resistor	10k 1/4W	MF1/4DC1002F
Potentiometer	500k	RVO9AF-40-20K-B500K
Timer IC	NE555P	NE555P
IC Socket	DIP-8 IC Socket	

Some useful tools you'll need:



Soldering Iron

Ideally something that can reach 350C.



Solder

I like to use 0.6mm-thick solder wire



Wire Cutters

These are also called "flush cutters". You can use one to snip excess component leads.

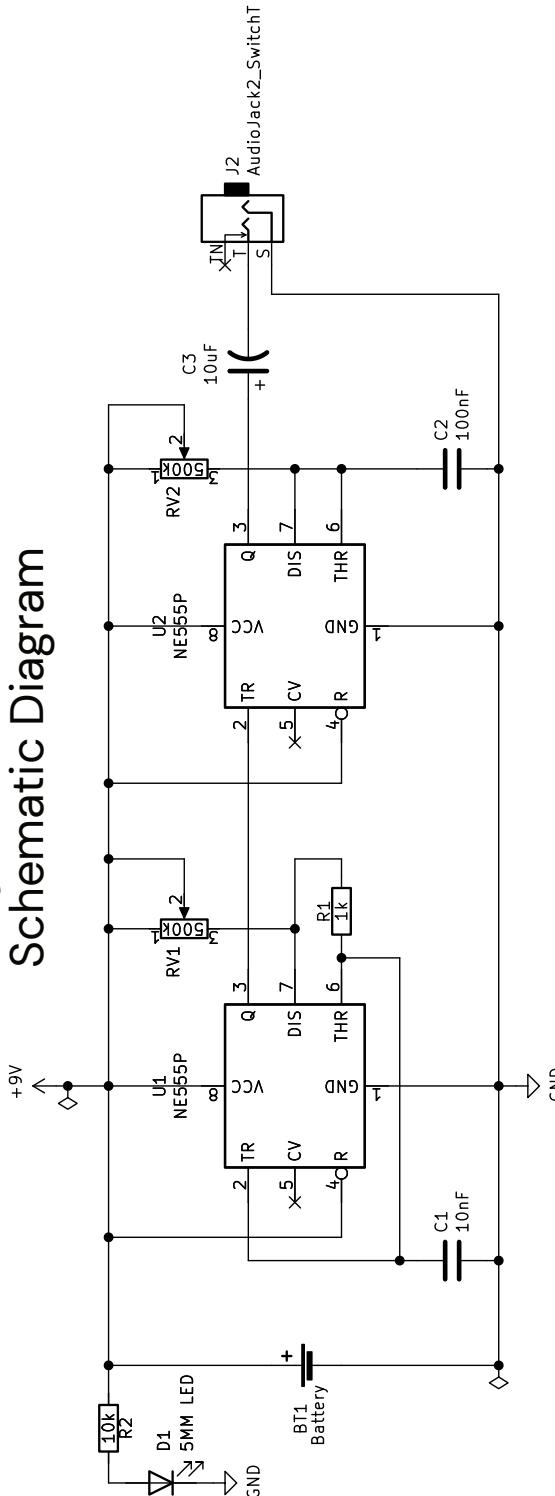


Desoldering Pump

You WILL make mistakes. When you do, you'll need a way to remove solder from a component.

SynthCard

Schematic Diagram



SynthCard

An intro to DIY music electronics

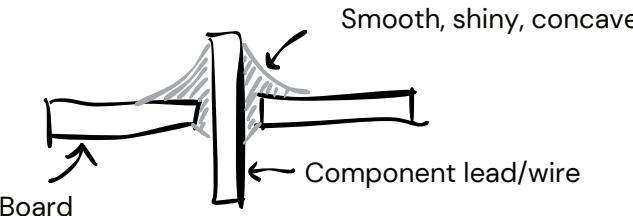
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SynthCard

Build Guide

What's a good solder joint?



Step 1: Resistors

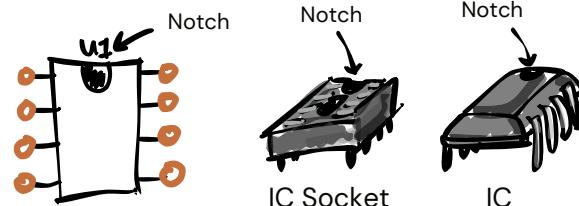


These can be placed in either direction.

Resistor values can be identified through the color bands.

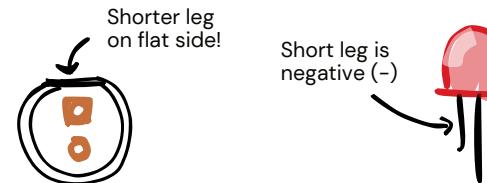


Step 2: Integrated Circuits (555 Timers)



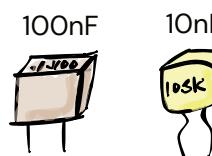
Solder the socket on. Make sure to line up the notch on the socket with the notch on the board.

Step 3: LEDs



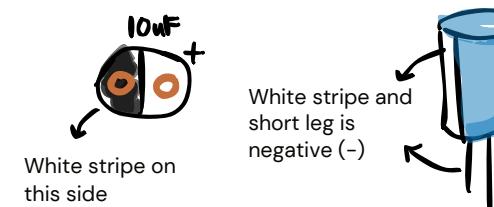
LEDs will only work in one direction. Make sure to line up the short leg with the flat side of the marking on the board.

Step 4: Non-Polarized Capacitors



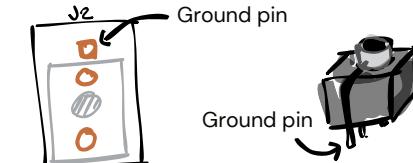
These can be placed in either direction. You might have to bend the legs of some of them in order to fit them on the footprint.

Step 5: Polarized Capacitors

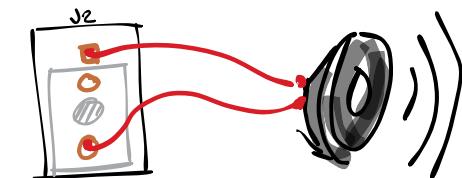


Polarized capacitors should be installed in the correct direction. The stripe on the component should be on the shaded side on the board.

Step 6: Jacks or Speakers

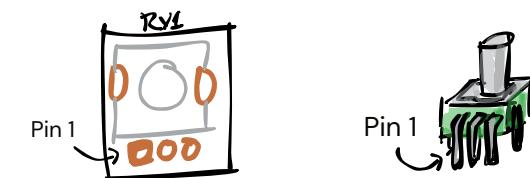


The jacks can be installed in only one direction. Alternatively, you can replace it with an 8 Ohm Speaker!



Step 7: Potentiometers

Pin 1 of the potentiometers will be marked with a square pad on the board. You might have to squeeze on the side legs to make them fit.



Step 8: Power

The card can be powered by anything up to 9V. In our case, let's use two AA batteries (a total of 3V)

