

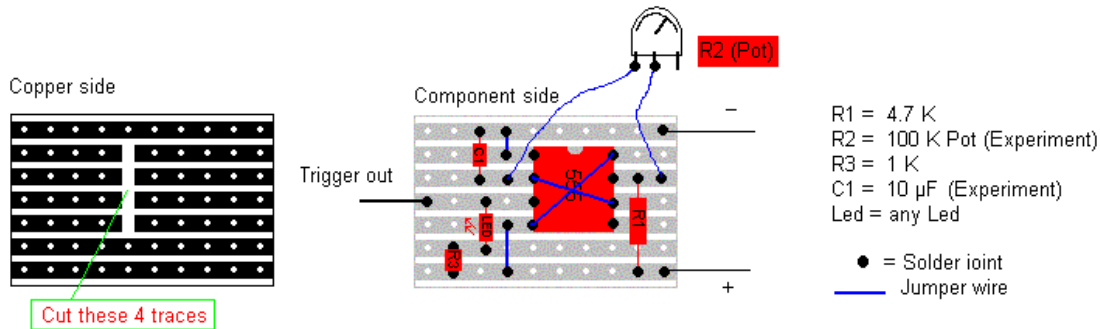
555 based LFO

(A design by Mikmo - <http://www.mikmo.dk/cblfo.htm>)

VERO board layout :

(Not to scale. Actual size about 2.5 Cm by 1.8 Cm)

Note : pot is shown from rear side.

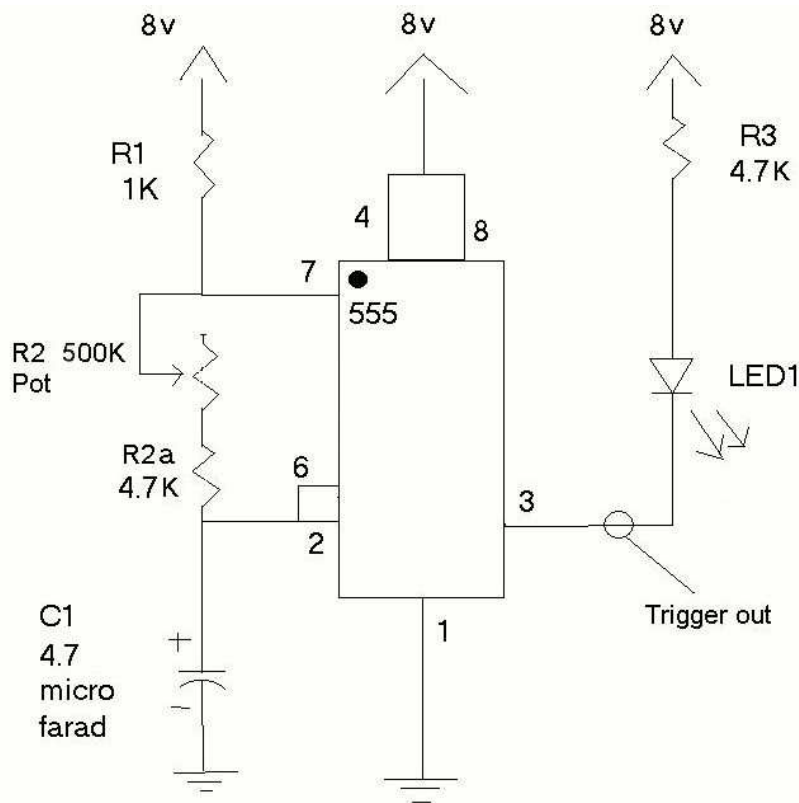


This is how i connected things :

Connect + and - to the power terminals on the circuit board of your synth, keyboard or toy. I put a toggle switch in one of those connections to be able to activate or deactivate the LFO.

Any problems ? mail me at mik_mo@hotmail.com, or go to <http://www.mikmo.dk/cblfo.html>

This is the design I used to create an LFO pitch bend for my Casio SK8



0.3 - 30Hz LFO:

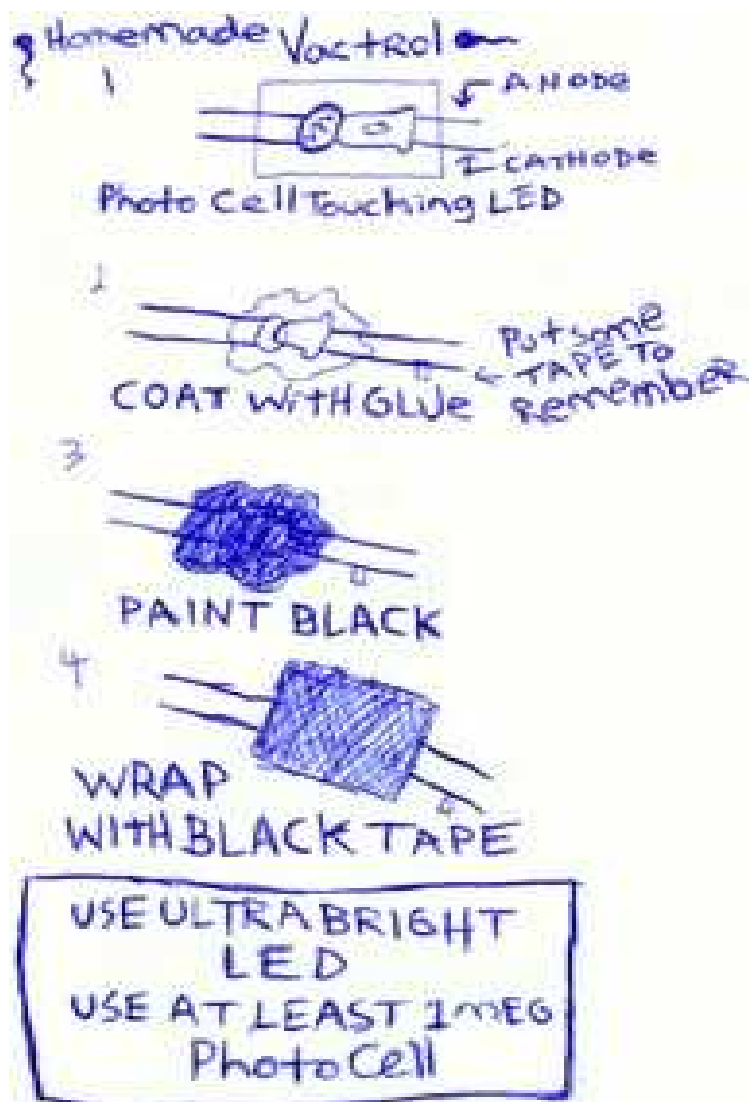
where

R1 = 1k
R2a = 4.7k 50% duty cycle
C1 = 4.7 μ F
R2 = 500k

Parts list

1x R1 --- 1k
1x R2a --- 4.7k 50% duty cycle
1x R3 --- 1k (4.7k for 9V)
1x VR2 --- 500k
1x C1 --- 4.7 μ F 25V electrolytic
1x 555 IC
1x 8 pin IC socket
1x normal LED
1x superbright red LED
1x LDR photoresistor
Veroboard

Modified Mikmo schematics by Graham Meredith



Vactrol design courtesy of Dave Wright:

<http://www.carriionsound.com/gallery/schems/vactrol.htm>

This circuit will give an LFO rate range of 0.3 - 30Hz.

The trigger connection is not needed for this circuit at all. You will notice on the circuit parts layout that there is a LED shown - this is the device used to control the LFO. You simply buy a photoresistor - one of these:

<http://www1.jaycar.com.au/productView.asp?ID=RD3485&CATID=33&keywords=&SPECIAL=&form=CAT&ProdCodeOnly=&Keyword1=&Keyword2=&pageNumber=&priceMin=&priceMax=&SUBCATID=788>

(copy and paste the whole link into your browser address line - stupid yahoo groups doesn't render the adress properly)

The 2 leads from THIS device is the thing that gets soldered across your bend points in your SK or whatever. Do that first - use 2 pieces of insulated hookup wire about 8 inches long to attach the photoresistor to the bend points, that way you can move it around and position it where you want. For the moment, hang it outside the keyboard case loosely. Test it - switch on your keyboard, play a few notes, and at the same time, cover and uncover the photoresistor with your hand, shielding it from the light. It should cause the pitch to waver as you remove your hand. OK, it now works.

Build the LFO circuit, don't install it yet. Test it by connecting it to a battery. The LED should flash on and off. Move the speed pot - the LED should speed up or slow down. Now put the LED up against the photoresistor and shield it from the light, and play a note. It should vibrate in time with the LED pulsing. That's it!!

Now, follow the hand-drawn diagrams on connecting the photoresistor to the LED, at the bottom of the instruction page. You may need to the biggest, brightest LED you can find, to get the best results, such as a 10000MCD or brighter 10mm superbright LED:

<http://www1.jaycar.com.au/productView.asp?ID=ZD0202&CATID=33&keywords=&SPECIAL=&form=CAT&ProdCodeOnly=&Keyword1=&Keyword2=&pageNumber=&priceMin=&priceMax=&SUBCATID=474>

Once the photoresistor is mounted to the LED as per the plans, try it out. If it works to your satisfaction, now install the whole thing in your SK, connect an on/off switch to the + power lead of the LFO circuit so you can switch it on and off.