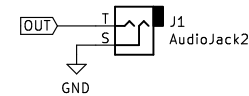
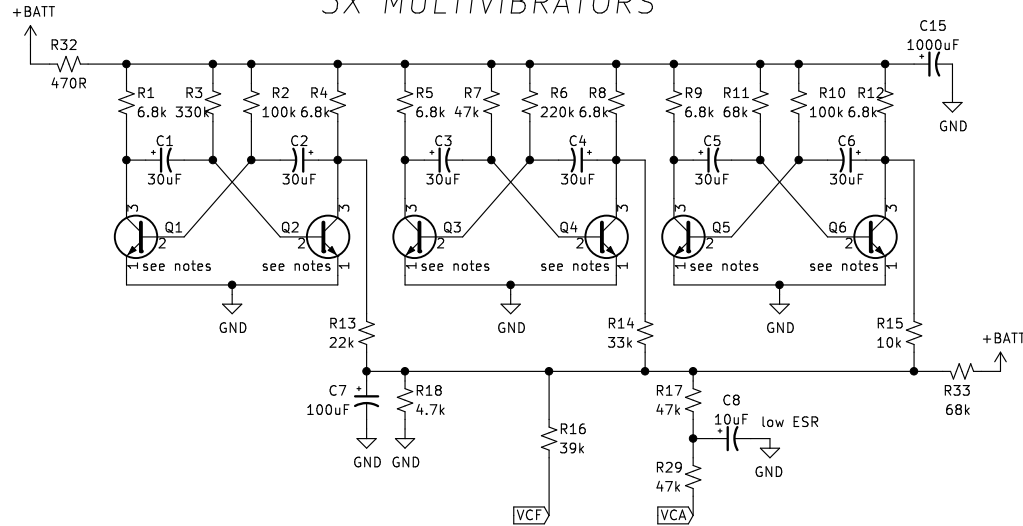
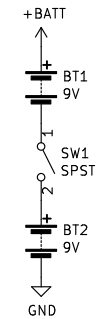


## 3X MULTIVIBRATORS

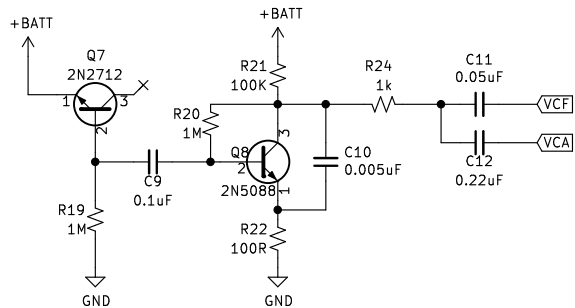


Not used on PCB  
OUT 1  
GND 2  
J2 pads

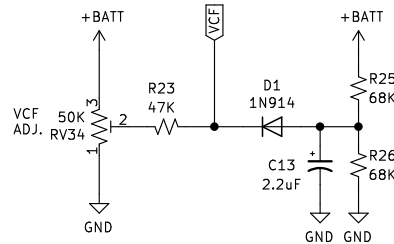


to use wall wart power, attach V+ to BT2+,  
gnd to BT2-, and jumper SW1p1 to BT1-

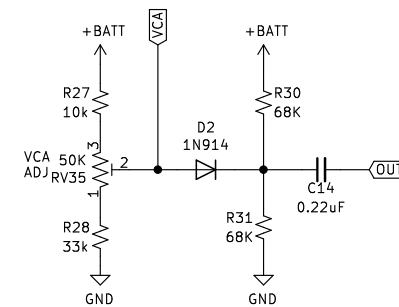
## NOISE SOURCE AND AMPLIFIER



## VCF



## VCA



- Resistors are 1/2w metal film 2.5x6.5ish. Ref Vishay NFR25H0004707JR500 or whatever
- C12, 14 are Cornell 715P or 716P polypropylene "orange drops", originally specced as mylar.  
Other film caps should also work.
- Original multivibrator xsitors are 2N5129, 2N3904 works well. another possibility is NTE123  
Or possibly closer are BC337...338, BC635, 2N221...22(A), or 2n5818
- The noise source is 2N2712 originally, synthcube has 2712 "work-alike Noisemakers":  
[https://synthcube.com/cart/index.php?route=product/product&product\\_id=8081](https://synthcube.com/cart/index.php?route=product/product&product_id=8081)  
I have also tested 2N3904's, as with the 2712, you may need to test a couple to find the best sounding one.
- Amplifier was also 2N2712. I have tested with a 2N5088, although it would probably like more gain.

Mouser project: <https://www.mouser.com/ProjectManager/ProjectDetail.aspx?AccessID=5a02463290>  
note: art is from [https://www.freepik.com/premium-vector/big-ocean-wave-sun-set\\_7483781.htm](https://www.freepik.com/premium-vector/big-ocean-wave-sun-set_7483781.htm)

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