

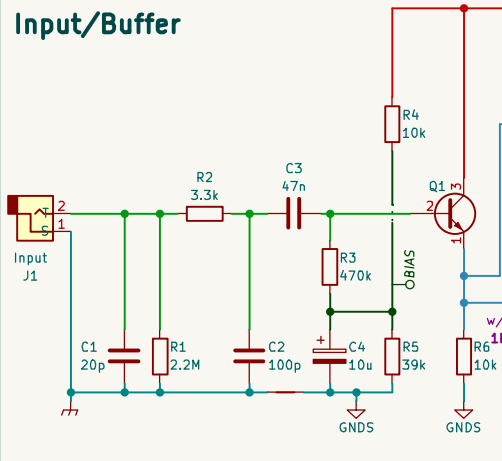
# Fly Trem

You down with BJT's?  
Yeah, you know me!

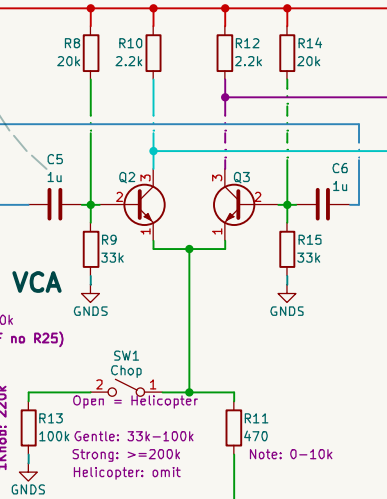
In this case, it really  
is okay to just use  
ceramic for the large,  
unpolarized caps.

I promise.

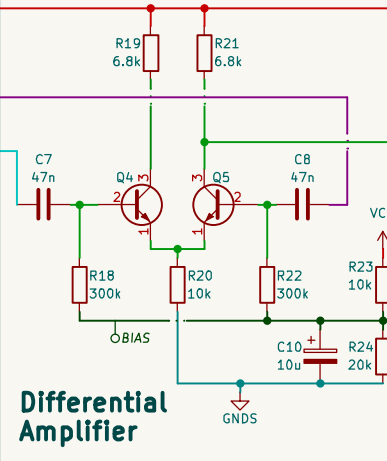
## Input/Buffer



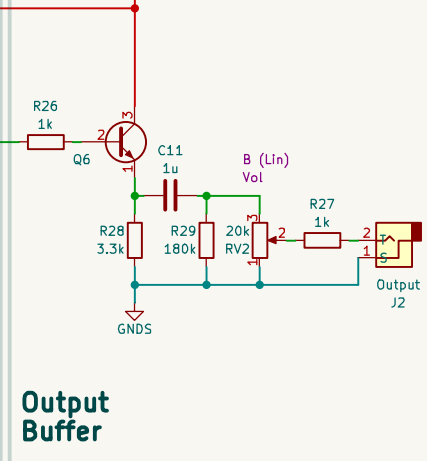
## VCA



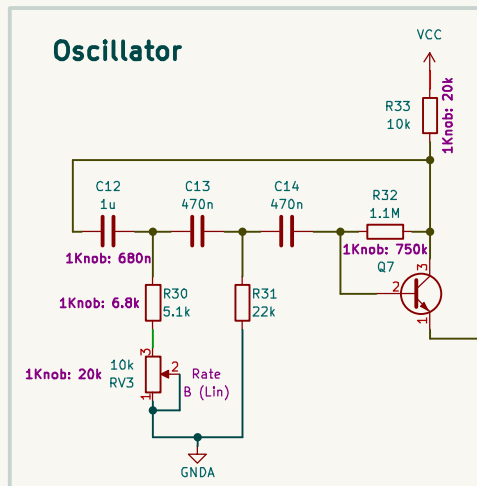
## Differential Amplifier



## Output Buffer

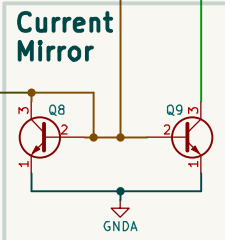


## Oscillator



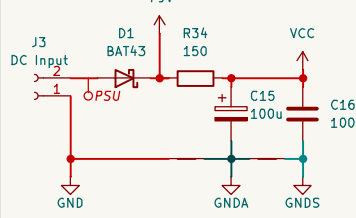
All transistors are  
2N3904, but virtually  
any NPN's will work as  
long as Q2 matches Q3,  
Q4 matches Q5, and Q8  
matches Q9.

## Current Mirror

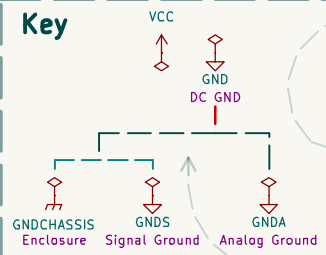


(Actually, you may be  
able to modify the  
oscillator to operate  
over a larger range of  
rates by replacing Q7,  
in particular, with a  
higher gain NPN).

## Power



## Key



This ground  
hierarchy  
is not  
mandatory.  
It's just  
what I do.

Added R25  
Fix Q10 base connection.  
Ditto + add LED  
Updates from breadboard + noise suppression  
D.B. Buchholz, Andrew T. Canaday

Sheet: /  
File: TheFly\_Trem.kicad\_sch

Title: Fly Trem

Size: A4 Date: 2025-09-14  
KiCad E.D.A. 8.0.9

Rev: 0.0.5  
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