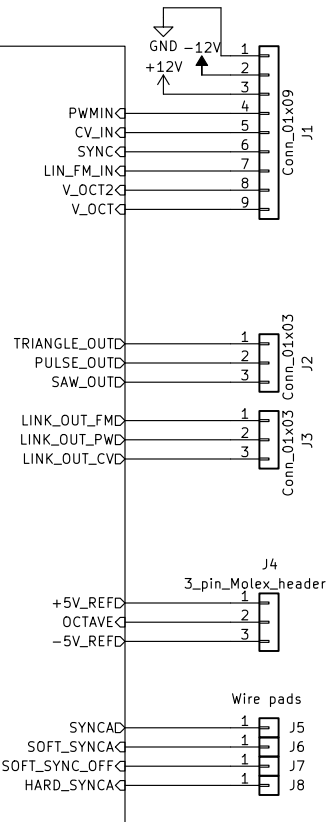


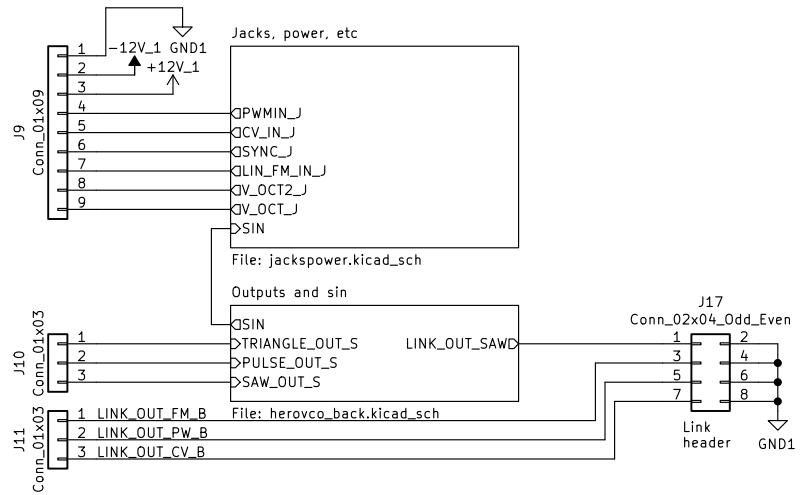
# FRONT PCB

Front PCB



File: herovco\_front.kicad\_sch

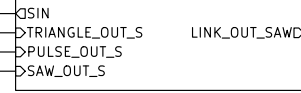
# BACK PCB



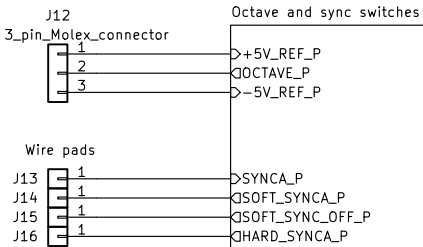
Jacks, power, etc

File: jackspower.kicad\_sch

Outputs and sin



File: herovco\_back.kicad\_sch



Octave and sync switches

File: octave.kicad\_sch

PANEL MOUNT

Partly based on designs by Kassutronics, Thomas Henry, and LMNC  
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**Rich Holmes / Analog Output**

Sheet: /

File: herovco.kicad\_sch

**Title: Hero VCO**

Size: USLetter Date: 2021-11-16

KiCad E.D.A. kicad 6.0.2-378541a8eb-116-ubuntu20.04.1

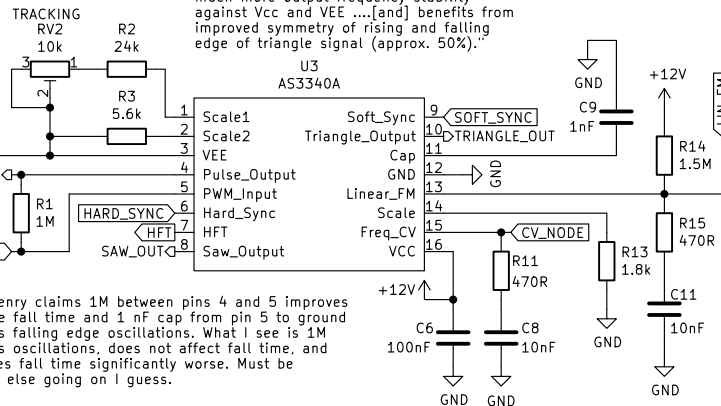
Rev:

Id: 1/5

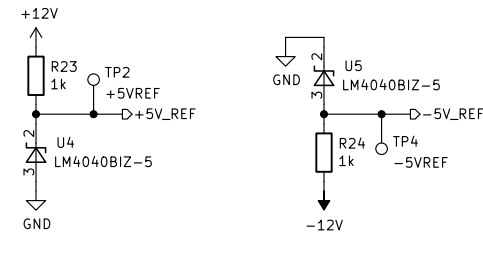


3340

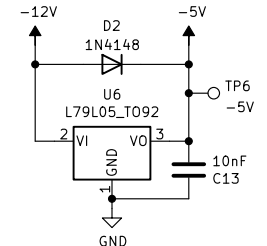
Regulated -5V is recommended by Alfa, and tests show it mostly suppresses PW frequency shift.



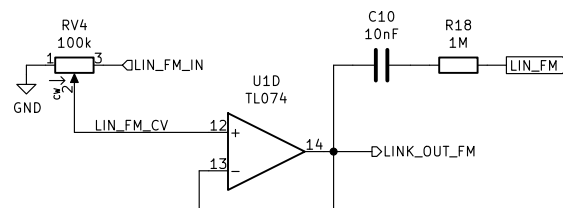
## ±5 V REFERENCES



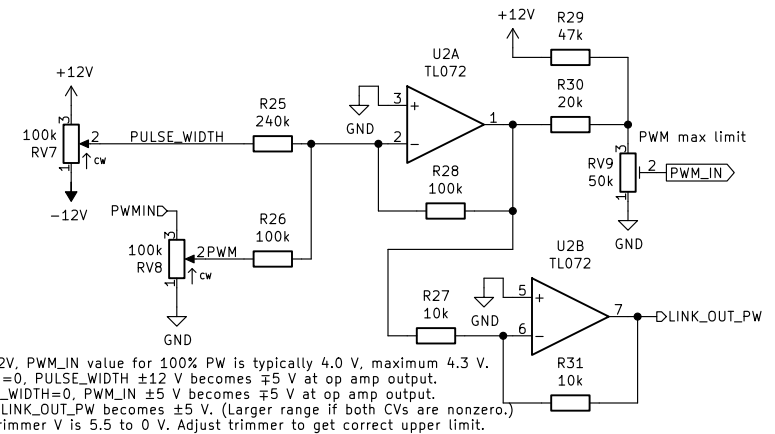
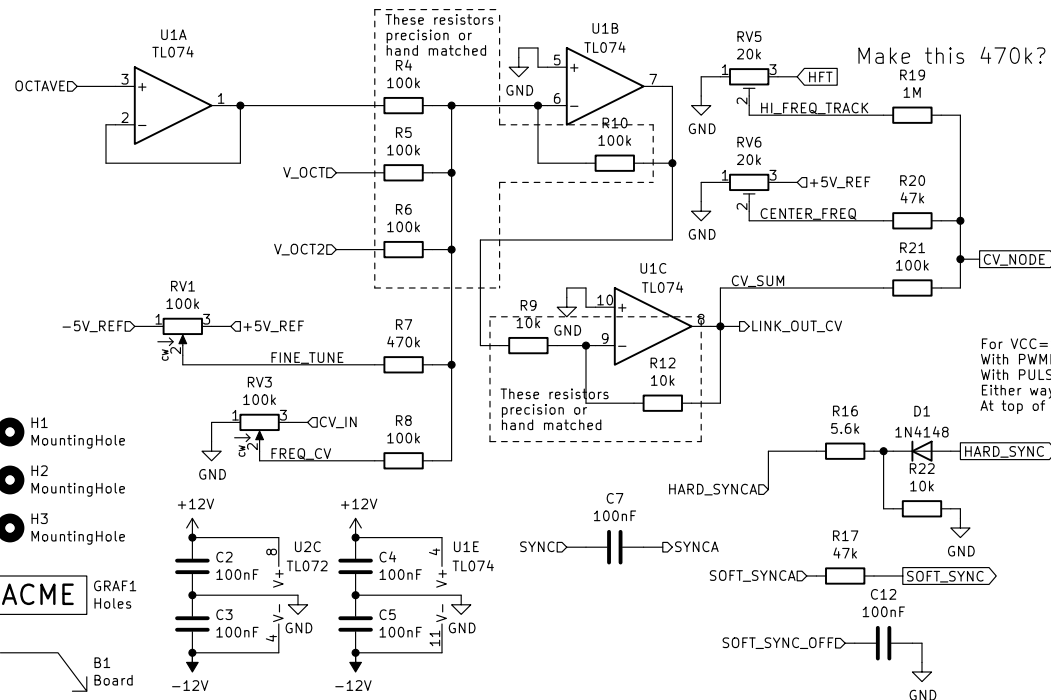
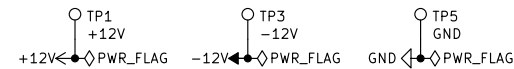
## -5V REGULATOR



## CONTROL VOLTAGES



## POWER CONNECTIONS



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**Rich Holmes / Analog Output**

Sheet: /Front PCB/  
File: herovco\_front.kicad\_sch

**Title: Hero VCO**

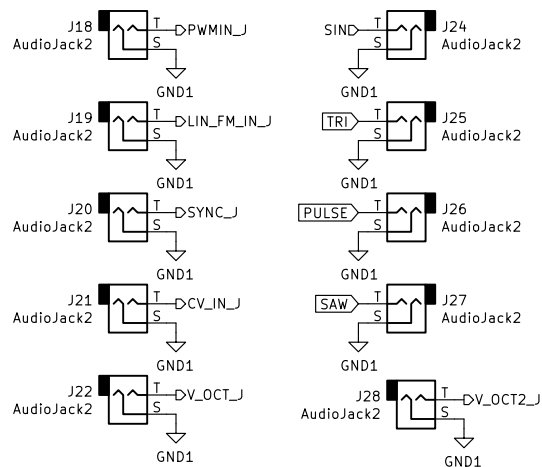
Size: USLetter Date: 2021-11-16

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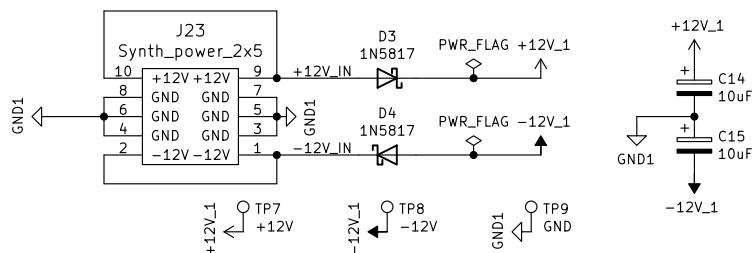
Rev:

Id: 2/5

## JACKS



## POWER



- H4 MountingHole
- H5 MountingHole
- H6 MountingHole

- ACME GRAF2 Holes
- ACME GRAF3 AO logo
- ACME GRAF4 CC0 logo

B2 Board

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Sheet: /Jacks, power, etc/

File: jackspower.kicad\_sch

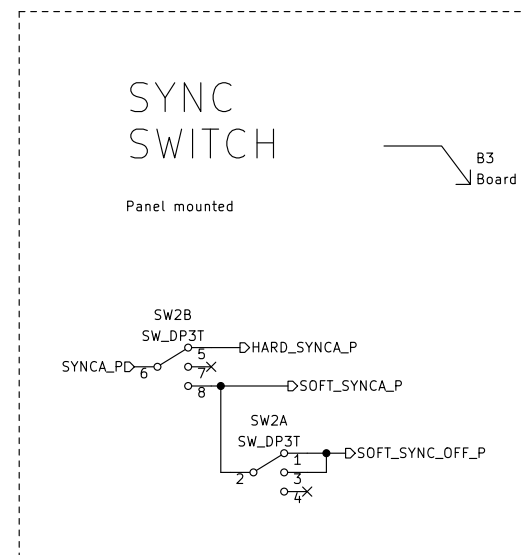
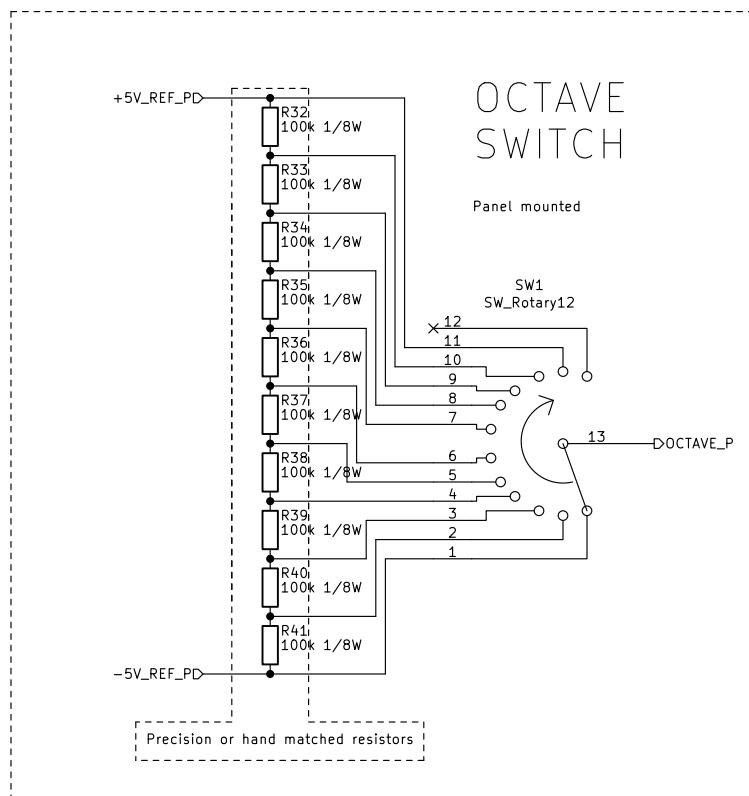
**Title: Hero VCO**

Size: USLetter Date: 2021-11-16

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**Rev:**

Id: 3/5



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Sheet: /Octave and sync switches/

File: octave.kicad\_sch

**Title: Hero VCO**

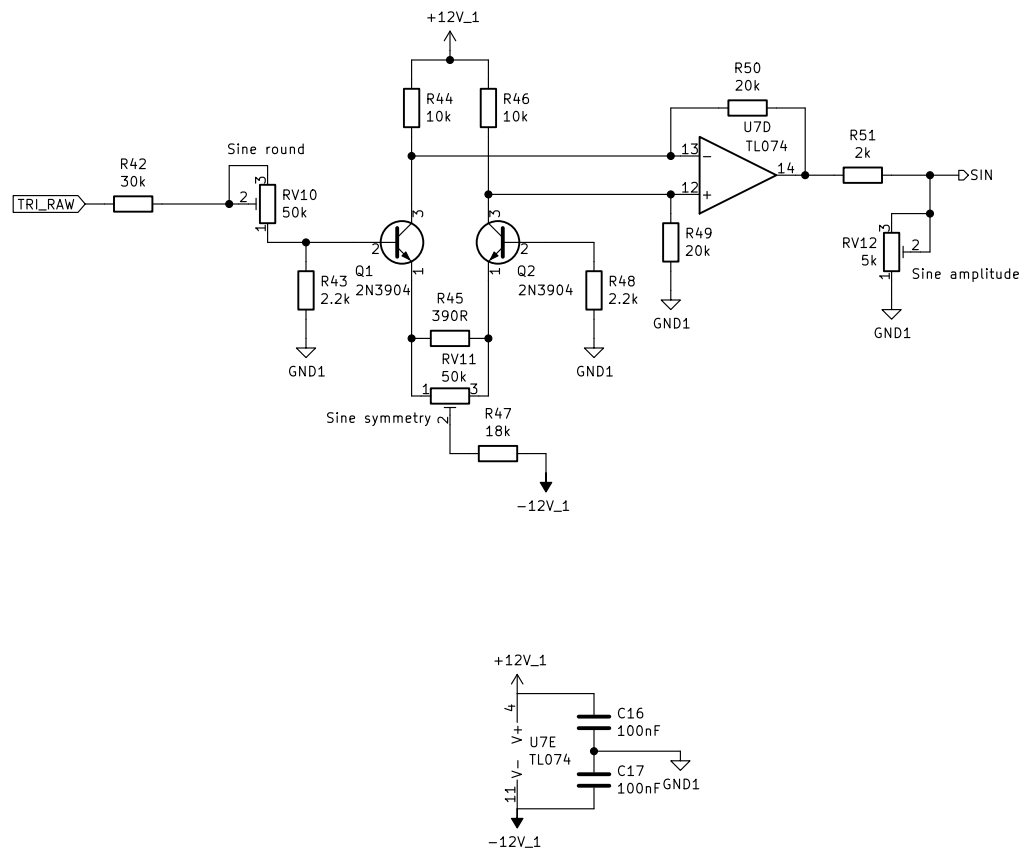
Size: USLetter Date: 2021-11-16

KiCad E.D.A. kicad 6.0.2-378541a8eb-116-ubuntu20.04.1

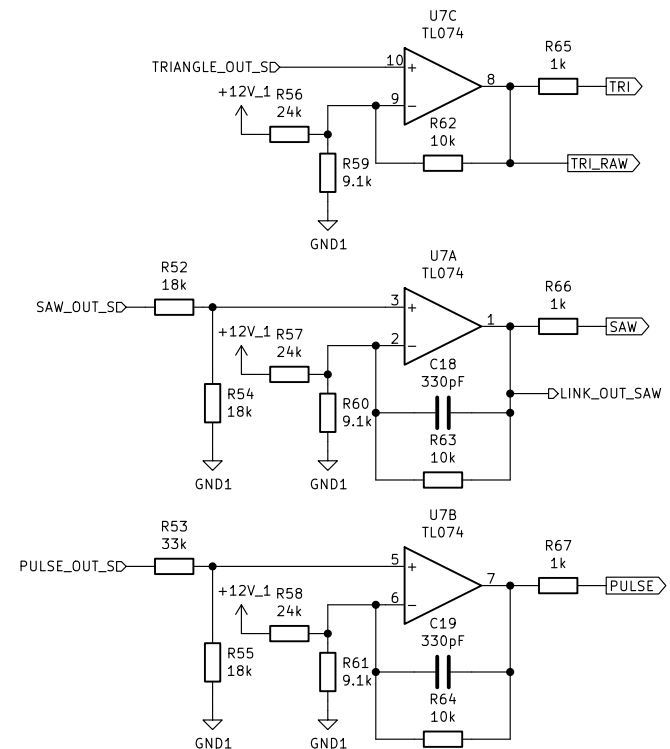
**Rev:**

Id: 4/5

## SINE SHAPING



## OUTPUT CONDITIONING



Kassutronics used 100k feedback resistors and similarly large values for voltage divider resistors. AS3340 datasheet calls for a 51k pull down on pin 4, so I reduced the voltage divider resistances by a factor of 10. Then stabilization caps were increased more to make  $1/(2\pi RC) \sim 50\text{kHz}$ .

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**Rich Holmes / Analog Output**

Sheet: /Outputs and sin/  
File: herovco\_back.kicad\_sch

**Title: Hero VCO**

Size: USLetter Date: 2021-11-16

KiCad E.D.A. kicad 6.0.2-378541a8eb-116-ubuntu20.04.1

**Rev:**

Id: 5/5