



# **SloBlo Labs**

Sheet: /  
File: LivSynth\_Hardware.kicad\_sch

## **Title: LivSynth**

Size: A4 Date: 2022-07-18

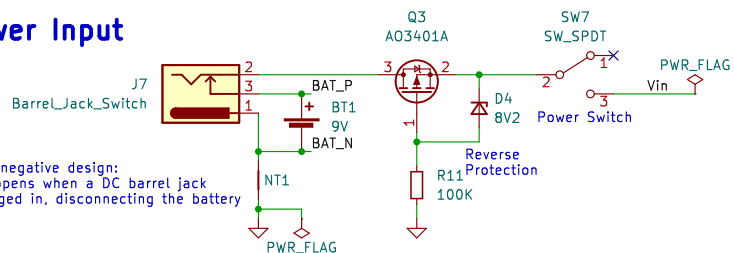
KiCad E.D.A. kicad 7.0.2-0

**Rev: 0v2**

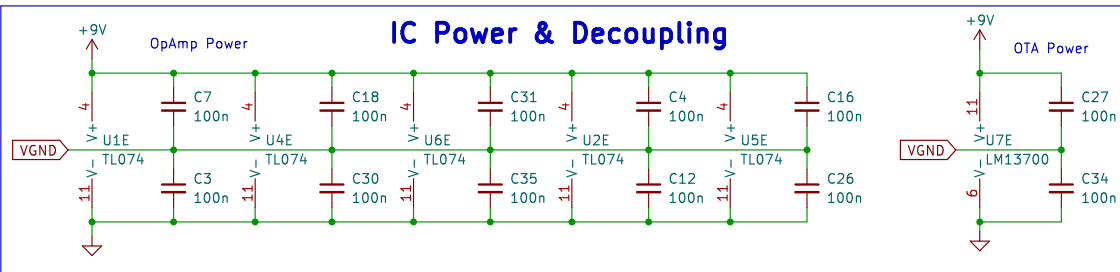
Id: 1/11

## Power Input

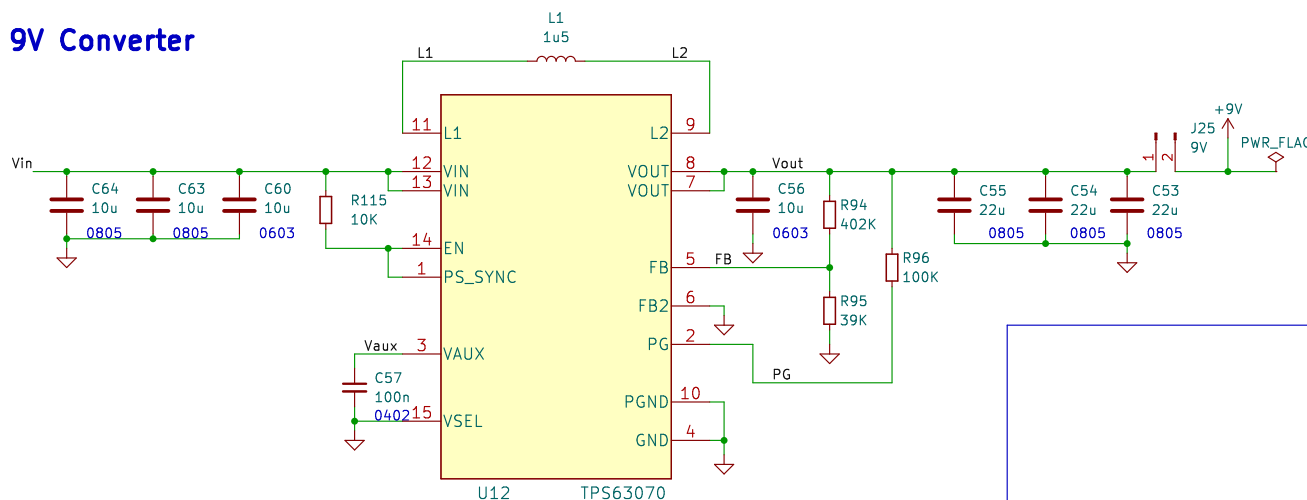
Centre negative design:  
Pin 3 opens when a DC barrel jack  
is plugged in, disconnecting the battery



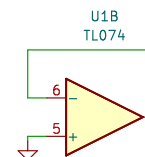
## IC Power & Decoupling



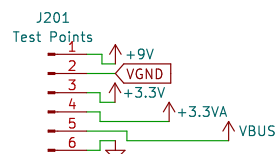
## 9V Converter



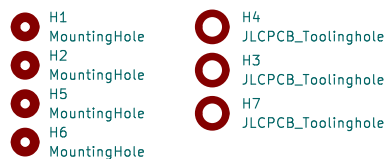
## Spare OPA



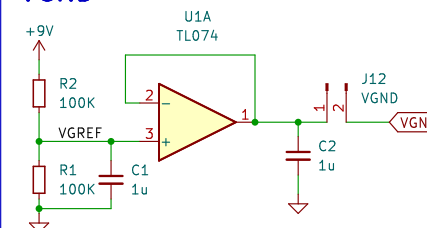
## Test Points



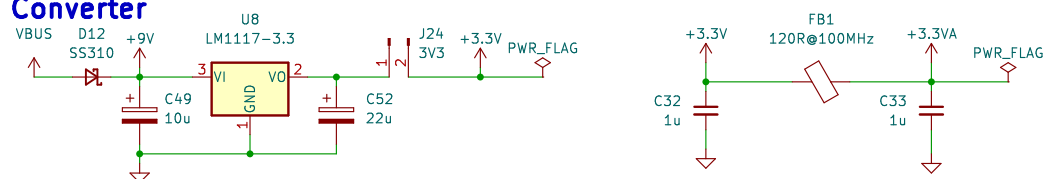
## Holes



## VGND



## 3V3 Converter



SloBlo Labs

Sheet: /Power/  
File: Power.kicad\_sch

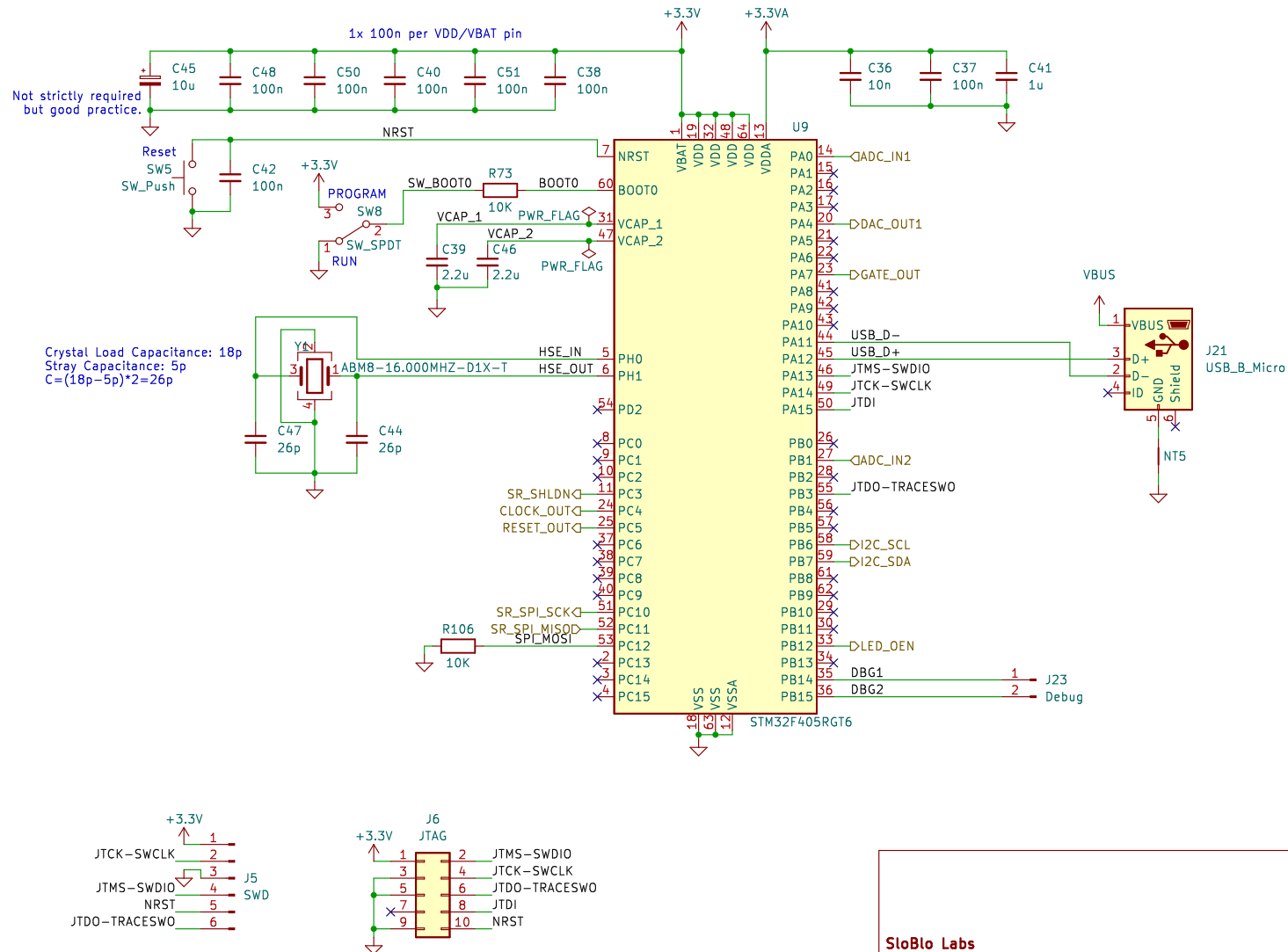
Title: LivSynth – Power

Size: A4 Date: 2022-07-18

KiCad E.D.A. kicad 7.0.2-0

Rev: 0v2

Id: 1/11



SloBlo Labs

Sheet: /MCU/

File: MCU.kicad\_sch

Title: LivSynth - MCU

Size: A4 Date: 2022-07-18

KiCad E.D.A. kicad 7.0.2-0

Rev: 0v2

Id: 2/11

Ref: <https://www.ti.com/lit/an/sloa097/sloa097.pdf>

$y=mx+b$

$$m = (V_{outH} - V_{outL}) / (V_{inH} - V_{inL}) \\ = (7 - 2) / (3.3 - 0) = 1.51$$

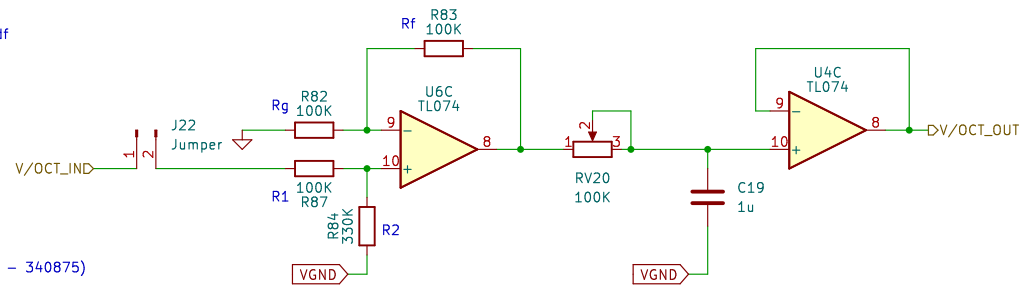
$$b = V_{outL} - m * V_{inL} \\ = 2 - 1.51 * 0 = 2$$

$$R1 = 100K \text{ (det)}$$

$$R2 = (V_{ref} * R1 * m) / b \\ = 4.5 * 100K * 1.51 / 2 = 340875$$

$$Rf = 100K \text{ (det)}$$

$$Rg = (R2 * Rf) / (m * (R1 + R2) - R2) \\ = 340875 * 100K / (1.515 * (100K + 340875) - 340875) \\ = 104227$$



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Sheet: /Slew/

File: Slew.kicad\_sch

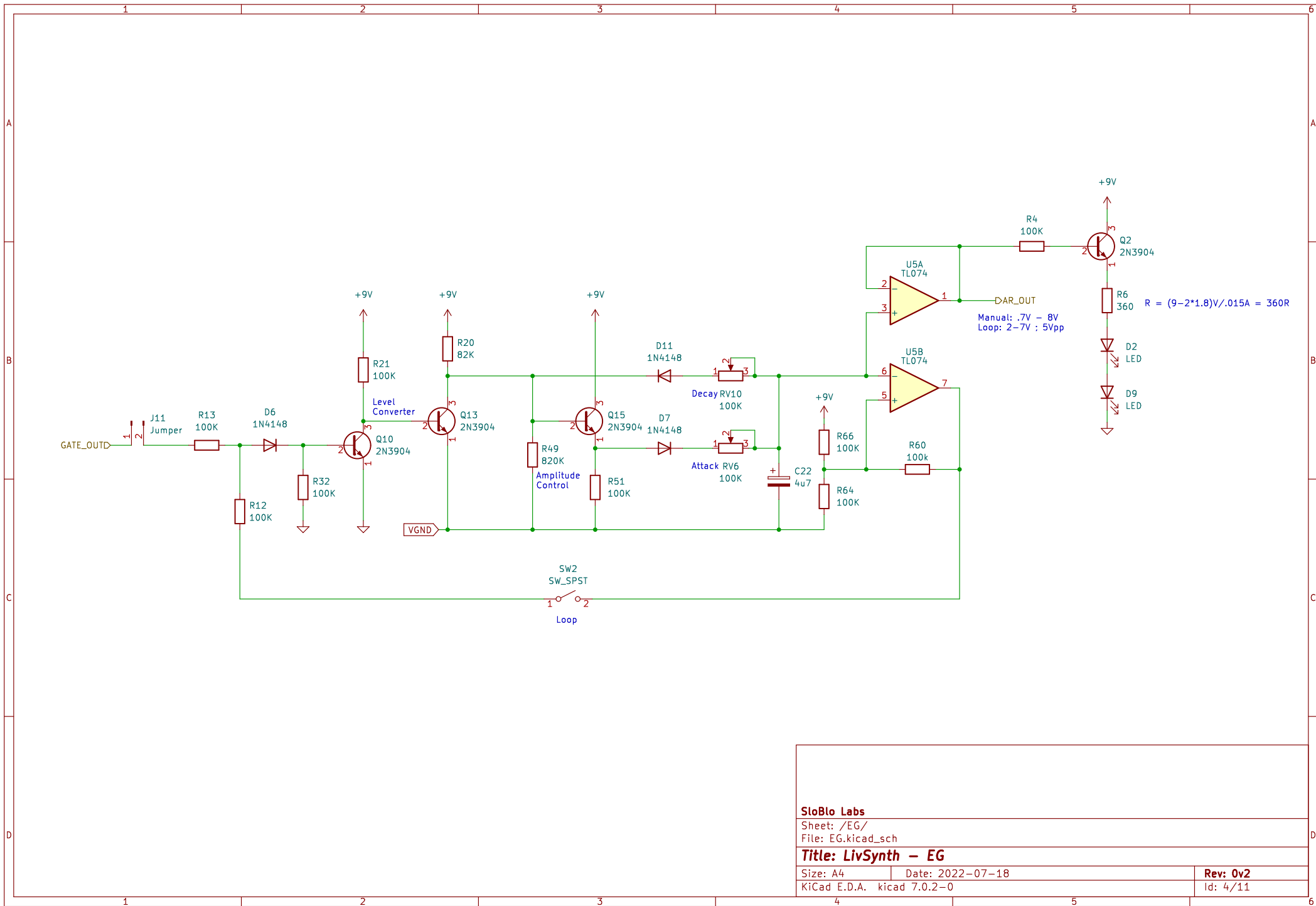
**Title: LivSynth – Slew**

Size: A4 Date: 2022-07-18

KiCad E.D.A. kicad 7.0.2-0

**Rev: 0v2**

Id: 3/11



SloBlo Labs

Sheet: /EG/

File: EG.kicad\_sch

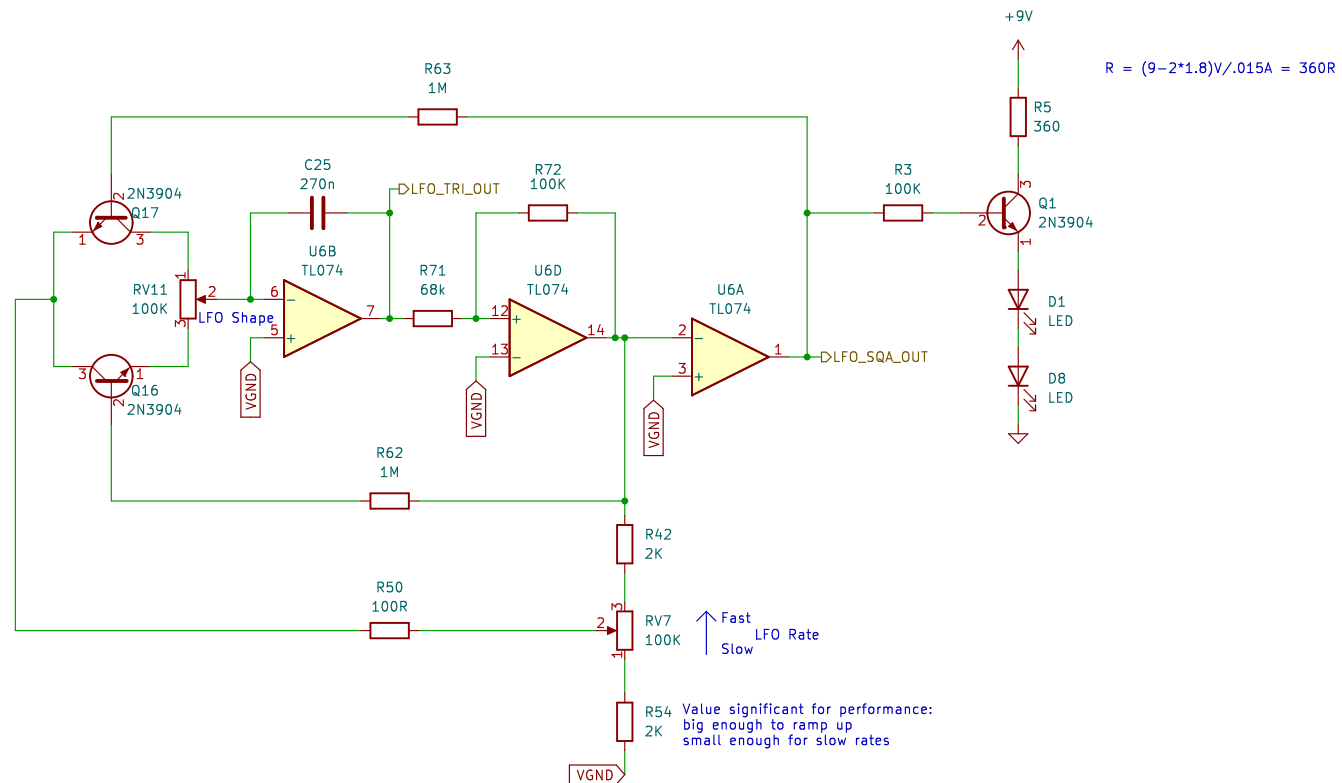
Title: LivSynth - EG

Size: A4 Date: 2022-07-18

KiCad E.D.A. kicad 7.0.2-0

Rev: 0v2

Id: 4/11



# **SloBlo Labs**

Sheet: /LFO/  
File: LFO.kicad\_sch

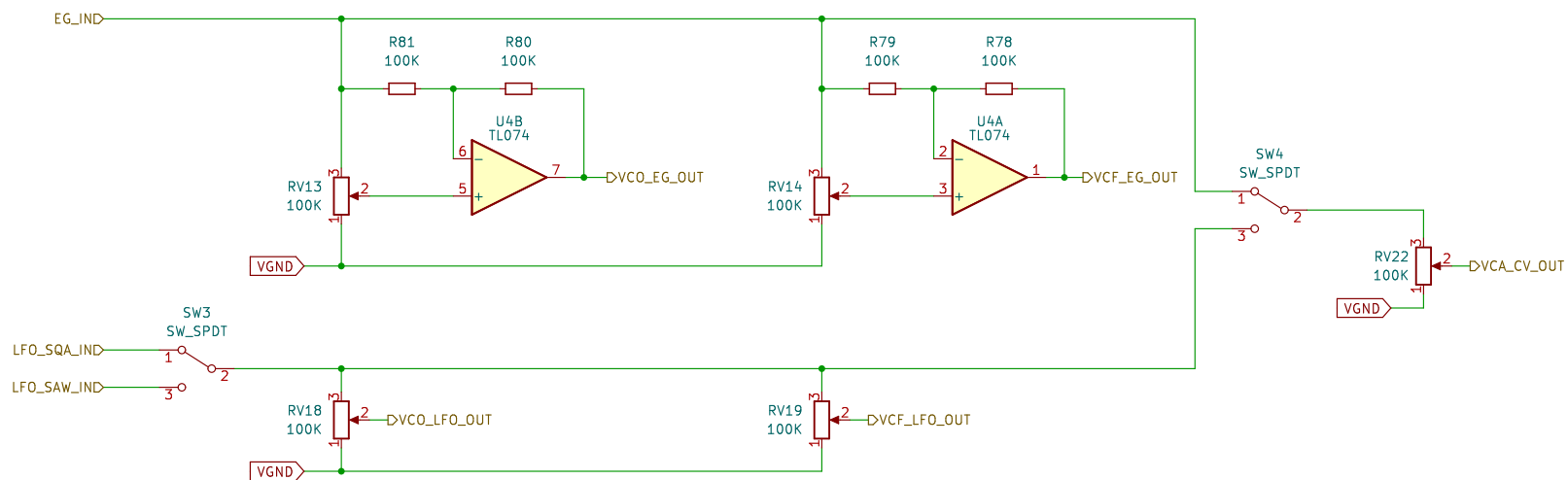
## **Title: LivSynth – LFO**

Size: A4 Date: 2022-07-18

KiCad E.D.A. kicad 7.0.2-0

Rev: 0v2

Id: 5/11



# **SloBlo Labs**

Sheet: /ModMatrix/

File: ModMatrix.kicad\_sch

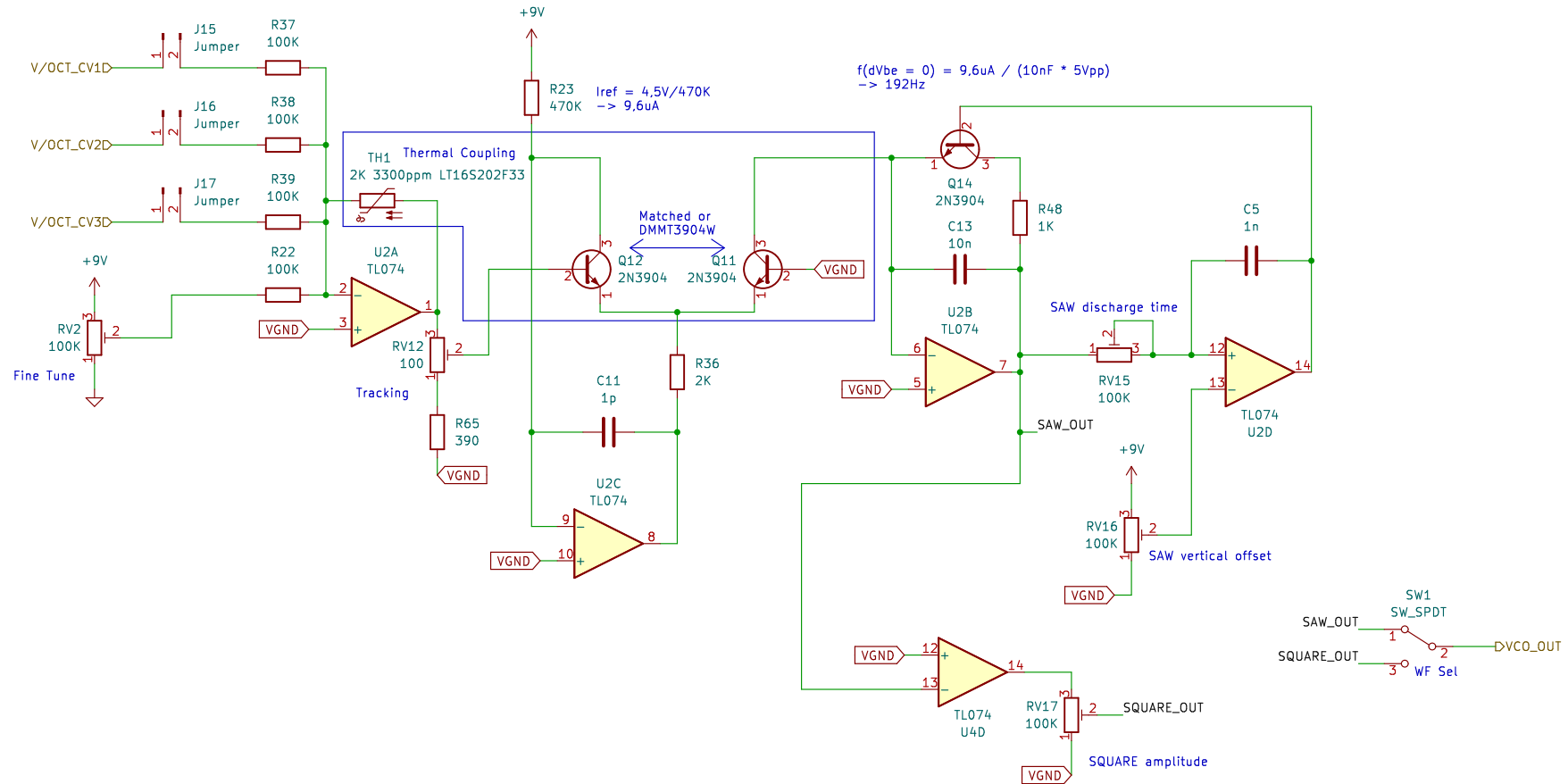
## **Title: LivSynth - ModMatrix**

Size: A4 Date: 2022-07-18

KiCad E.D.A. kicad 7.0.2-0

**Rev: 0v2**

Id: 6/11



**SloBlo Labs**

Sheet: /VCO/  
File: VCO.kicad\_sch

**Title: Liv Synth – VCO**

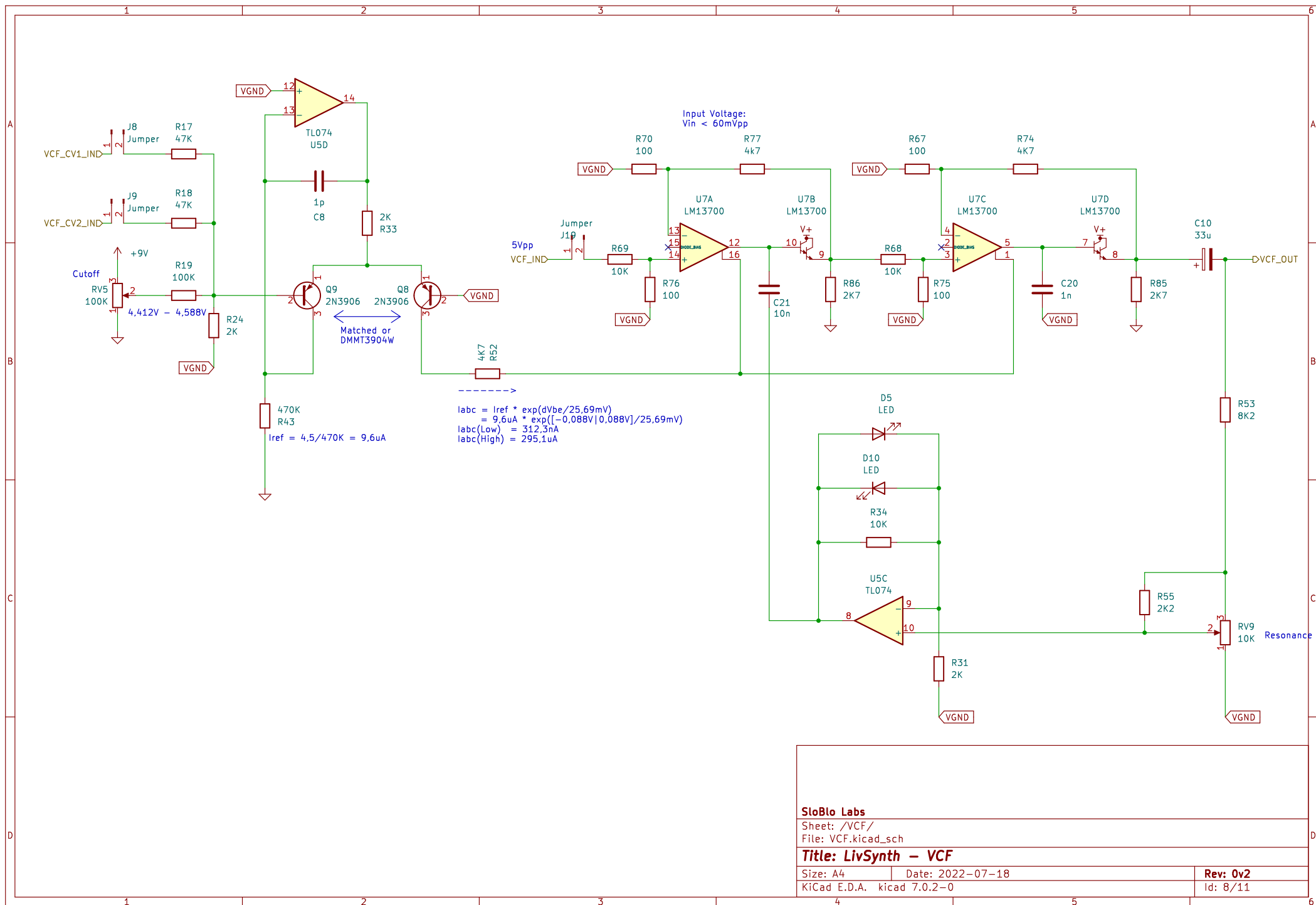
Size: A4 Date: 2022-07-18

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**Rev: 0v2**

Id: 7/11





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Sheet: /VCF/

File: VCF.kicad\_sch

Title: LivSynth – VCF

Size: A4 Date: 2022-07-18

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Rev: 0v2

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