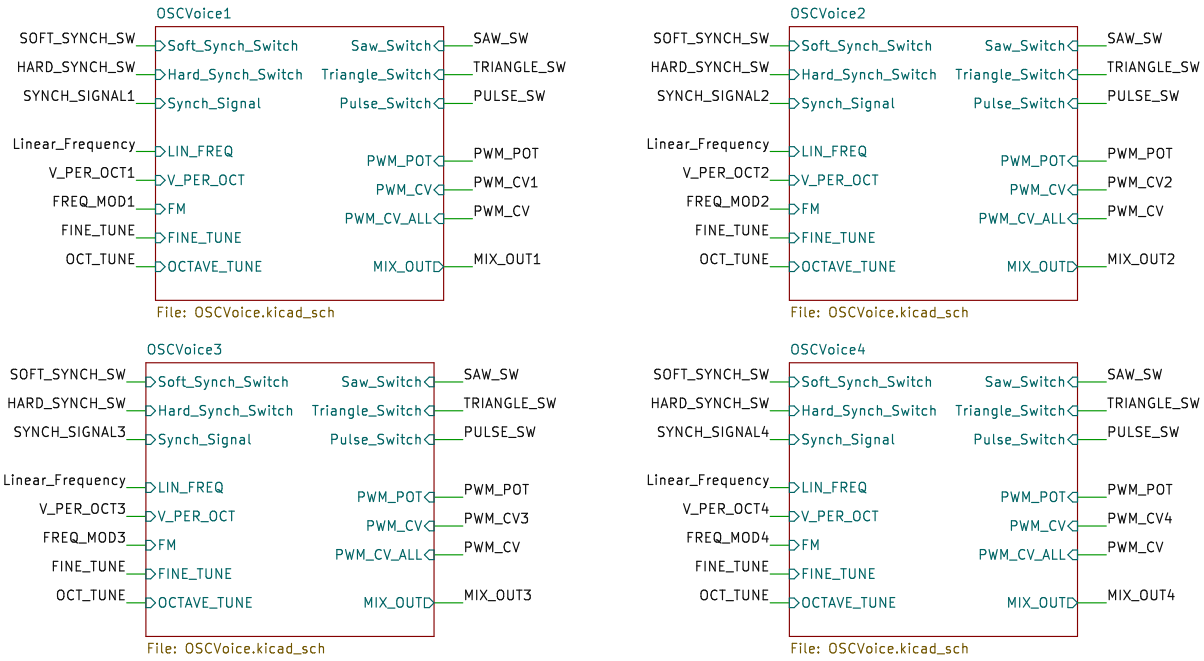
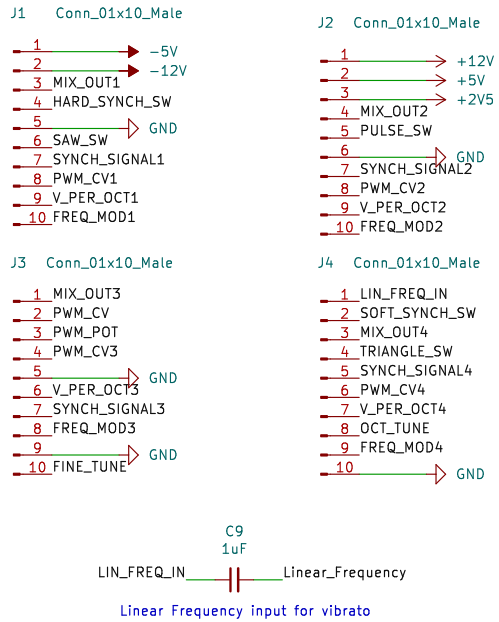
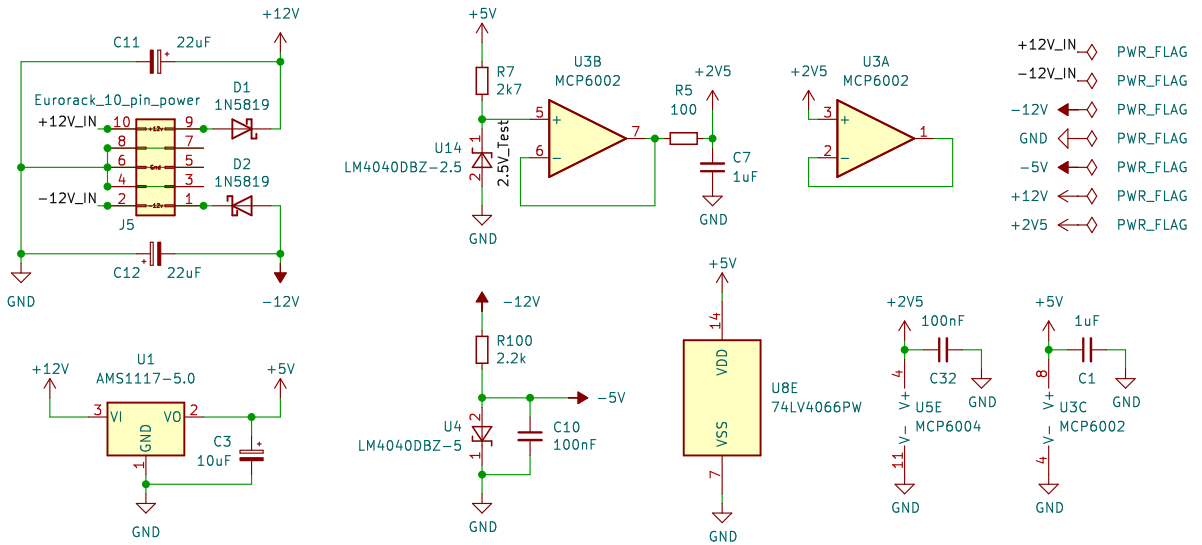


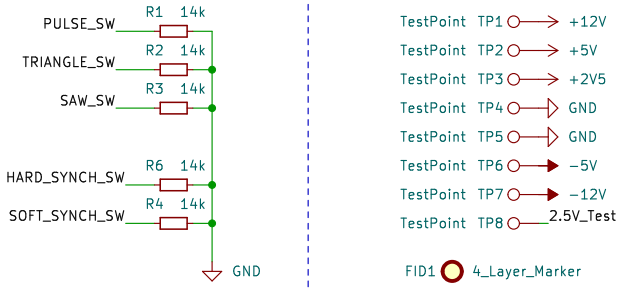
Voice schematics



Connectors



Power



Switch Pull−Downs

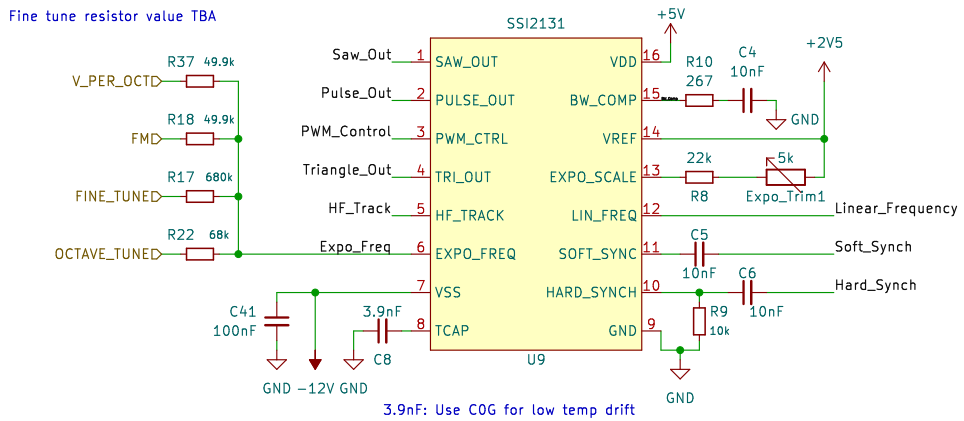
Testpoints

Mountjoy Modular

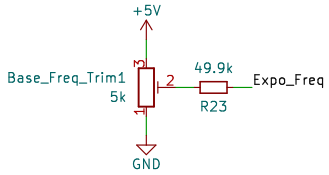
Sheet: /
File: Quadraphone.kicad_sch

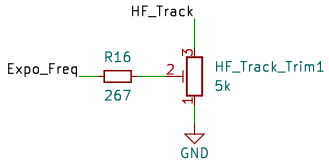
Title: Quadraphone Components

Size: A4	Date: 2023−01−27	**Rev: 1.0**
KiCad E.D.A. kicad (6.0.11)		Id: 1/5

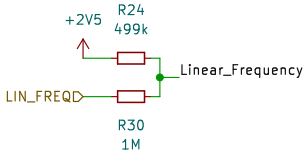


SSI2131 VCO

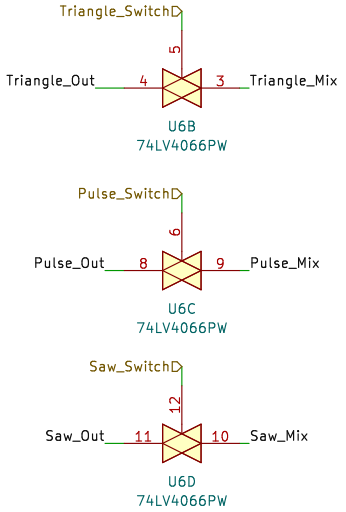




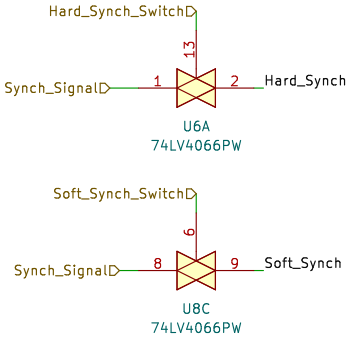
Trimmers



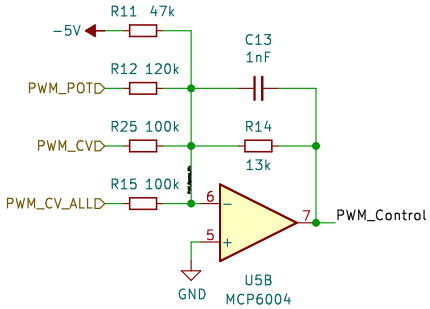
Linear Frequency



Output Switching



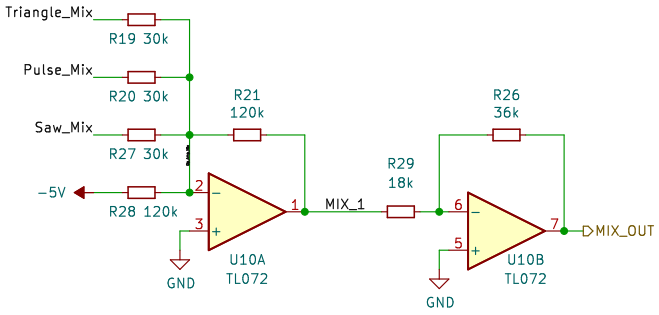
Synch Type Switching



VCO input assume input −10V to +10V:
(−13/100) * +10 + (−13/47) * −5 = 0.08V
(−13/100) * −10 + (−13/47) * −5 = 2.68V

Pot input −12V to +12V:
(−13/120) * +12 + (−13/47) * −5 = 0.08V
(−13/120) * −12 + (−13/47) * −5 = 2.68V

PWM CV Mixer

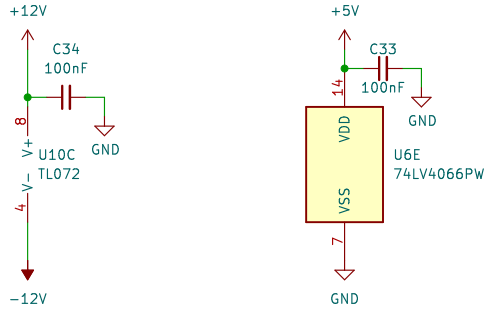


First stage inverts and amplifies to −5V to 5V
(−120/30) * 0 + (−120/120) * −5 = 5V
(−120/30) * 2.5 + (−120/120) * −5 = −5V

2nd stage inverts and amplifies x2
(−36/18) * −5 = +10V
(−36/18) * +5 = −10V

Inverting mixer calculation:
−Vx * (Rfb / Rx)

Output Mixer



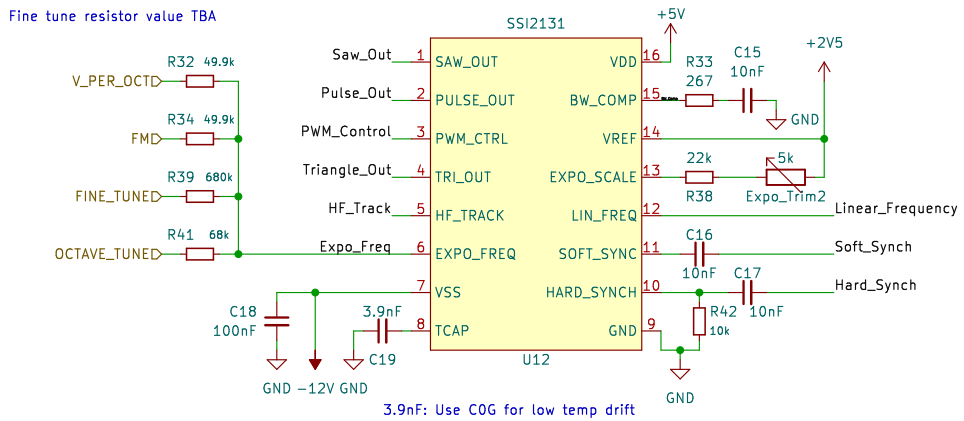
IC Power

Mountjoy Modular

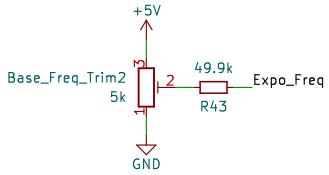
Sheet: /OSCVoice1/
File: OSCVoice.kicad_sch

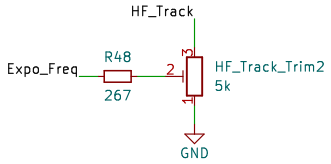
Title: Quadraphone Voice

Size: A4	Date: 2023-01-27	**Rev: v1.0**
KiCad E.D.A. kicad (6.0.11)		Id: 2/5

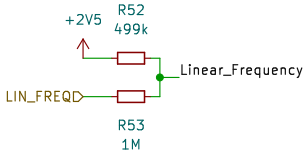


SSI2131 VCO

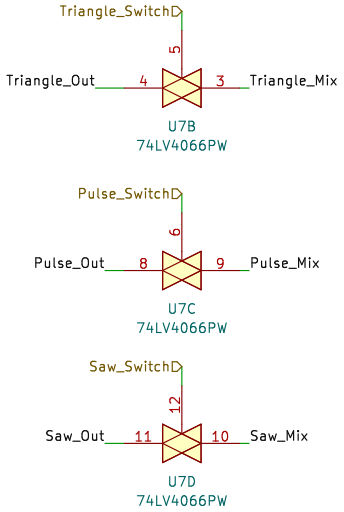




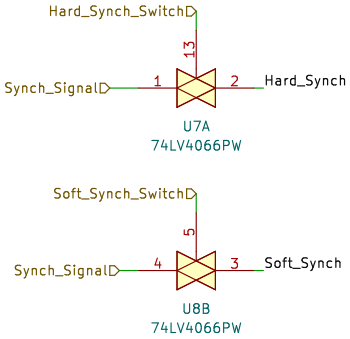
Trimmers



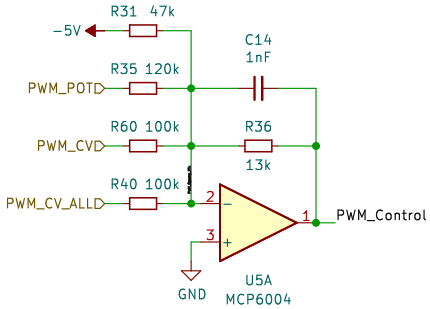
Linear Frequency



Output Switching



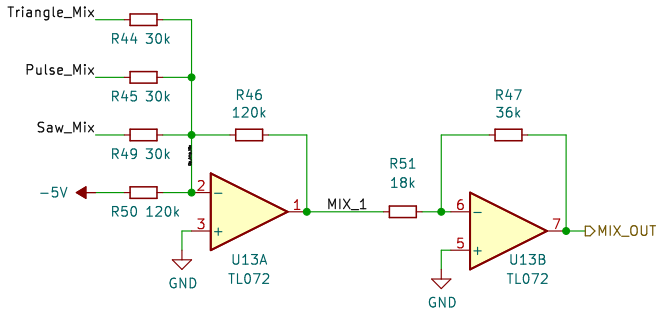
Synch Type Switching



VCO input assume input −10V to +10V:
(−13/100) * +10 + (−13/47) * −5 = 0.08V
(−13/100) * −10 + (−13/47) * −5 = 2.68V

Pot input −12V to +12V:
(−13/120) * +12 + (−13/47) * −5 = 0.08V
(−13/120) * −12 + (−13/47) * −5 = 2.68V

PWM CV Mixer

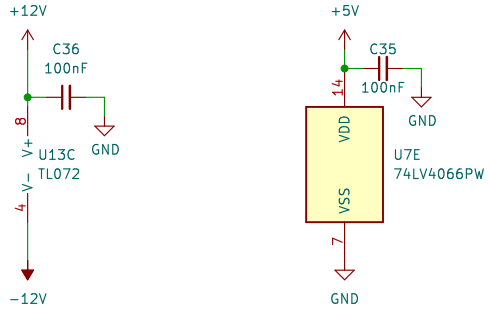


First stage inverts and amplifies to −5V to 5V
(−120/30) * 0 + (−120/120) * −5 = 5V
(−120/30) * 2.5 + (−120/120) * −5 = −5V

2nd stage inverts and amplifies x2
(−36/18) * −5 = +10V
(−36/18) * +5 = −10V

Inverting mixer calculation:
−Vx * (Rfb / Rx)

Output Mixer



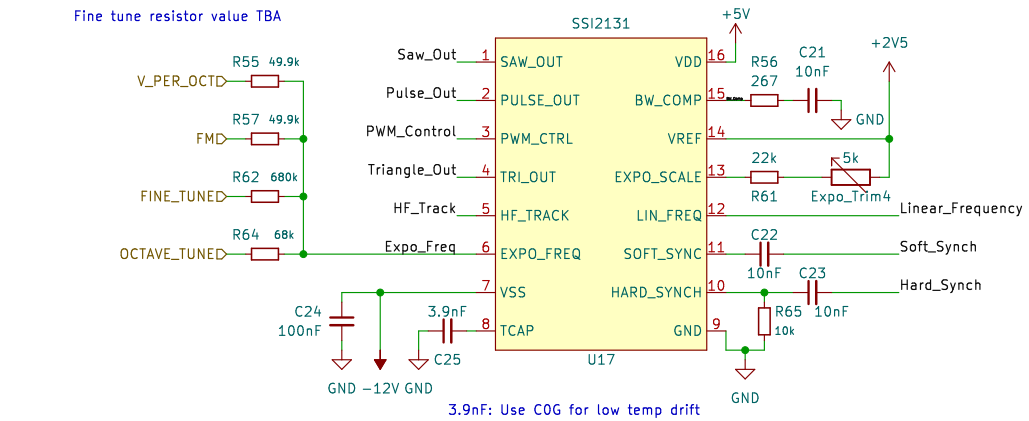
IC Power

Mountjoy Modular

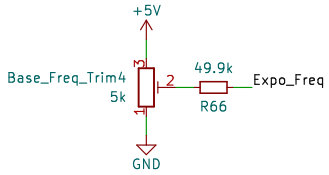
Sheet: /OSCVoice2/
File: OSCVoice.kicad_sch

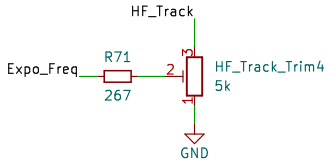
Title: Quadraphone Voice

Size: A4	Date: 2023-01-27	**Rev: v1.0**
KiCad E.D.A. kicad (6.0.11)		Id: 3/5

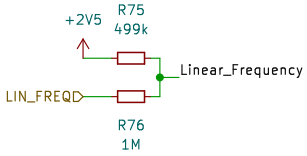


SSI2131 VCO

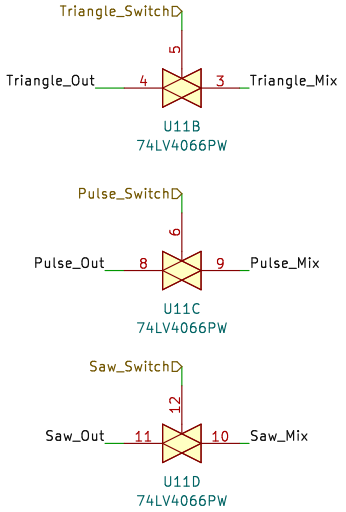




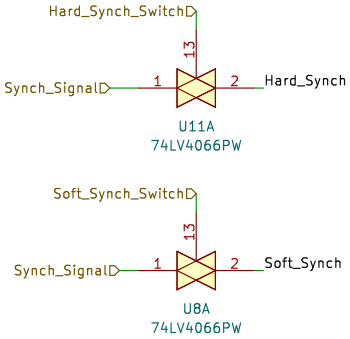
Trimmers



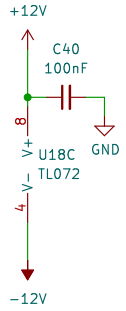
Linear Frequency

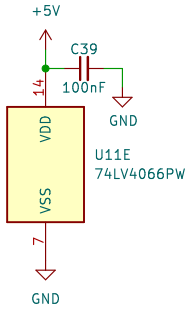


Output Switching

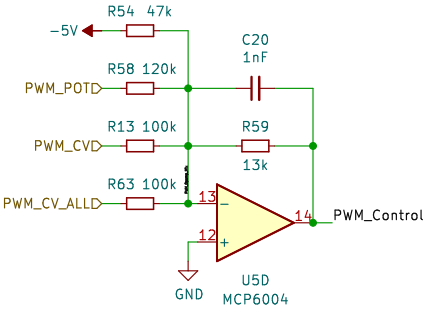


Synch Type Switching





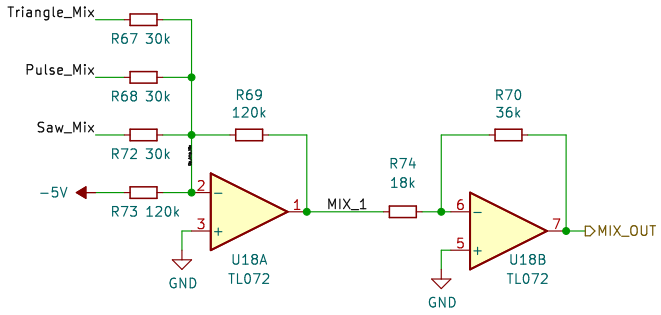
IC Power



VCO input assume input −10V to +10V:
(−13/100) * +10 + (−13/47) * −5 = 0.08V
(−13/100) * −10 + (−13/47) * −5 = 2.68V

Pot input −12V to +12V:
(−13/120) * +12 + (−13/47) * −5 = 0.08V
(−13/120) * −12 + (−13/47) * −5 = 2.68V

PWM CV Mixer



First stage inverts and amplifies to −5V to 5V
(−120/30) * 0 + (−120/120) * −5 = 5V
(−120/30) * 2.5 + (−120/120) * −5 = −5V

2nd stage inverts and amplifies x2
(−36/18) * −5 = +10V
(−36/18) * +5 = −10V

Inverting mixer calculation:
−Vx * (Rfb / Rx)

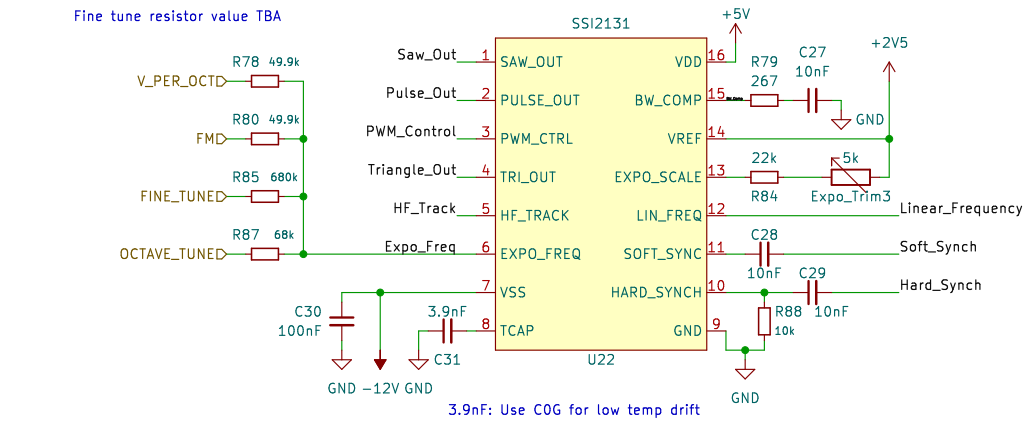
Output Mixer

Mountjoy Modular

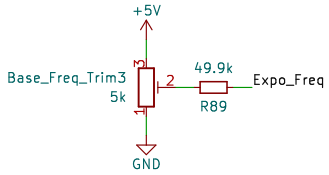
Sheet: /OSCVoice4/
File: OSCVoice.kicad_sch

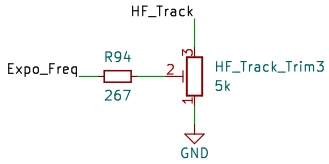
Title: Quadraphone Voice

Size: A4	Date: 2023-01-27	**Rev: v1.0**
KiCad E.D.A. kicad (6.0.11)		Id: 4/5

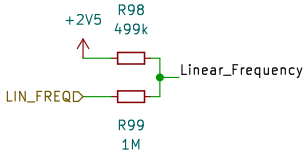


SSI2131 VCO

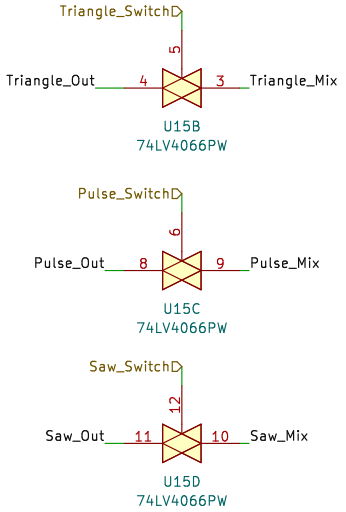




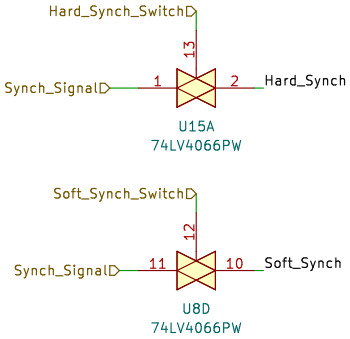
Trimmers



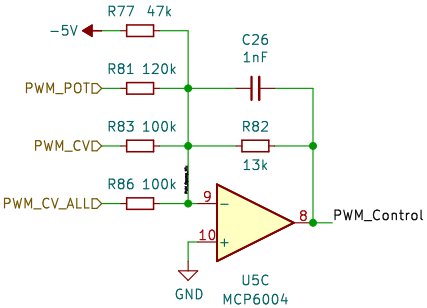
Linear Frequency



Output Switching



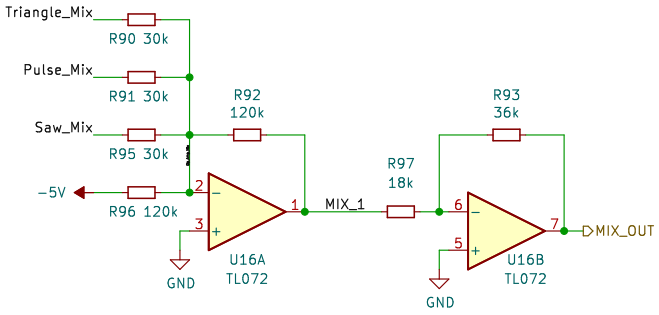
Synch Type Switching



VCO input assume input −10V to +10V:
(−13/100) * +10 + (−13/47) * −5 = 0.08V
(−13/100) * −10 + (−13/47) * −5 = 2.68V

Pot input −12V to +12V:
(−13/120) * +12 + (−13/47) * −5 = 0.08V
(−13/120) * −12 + (−13/47) * −5 = 2.68V

PWM CV Mixer

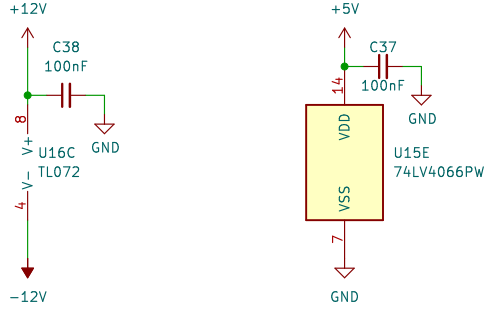


First stage inverts and amplifies to −5V to 5V
(−120/30) * 0 + (−120/120) * −5 = 5V
(−120/30) * 2.5 + (−120/120) * −5 = −5V

2nd stage inverts and amplifies x2
(−36/18) * −5 = +10V
(−36/18) * +5 = −10V

Inverting mixer calculation:
−Vx * (Rfb / Rx)

Output Mixer



IC Power

Mountjoy Modular

Sheet: /OSCVoice3/
File: OSCVoice.kicad_sch

Title: Quadraphone Voice

Size: A4	Date: 2023-01-27	**Rev: v1.0**
KiCad E.D.A. kicad (6.0.11)		Id: 5/5