J1
signal_input
1
2 ▷ GND
3
4

Sheet: audio_path
filter_input   high_pass_out▷
                                band_pass_out▷
                                low_pass_out▷

Vfc_in◁
Vrez_in◁

File: audio_path.sch

J5
mode_select_jumper
1   2
3   4
5   6

GND ◁

J3
signal_output
1
2
3
4

Sheet: CV_path

Vfc_out▷
Vrez_out▷

J2
cutoff_CV_input
1
2 ▷ GND
3
4

FM_in◁   resonance_CV_in◁

File: CV_path.sch

J4
feedback_CV_and_PS
GND ◁   1   ▷ PWR_FLAG
        2
        3
        4
−12V ◀ 5   ▷ PWR_FLAG
        6
+12V ◀ 7   ▷ PWR_FLAG
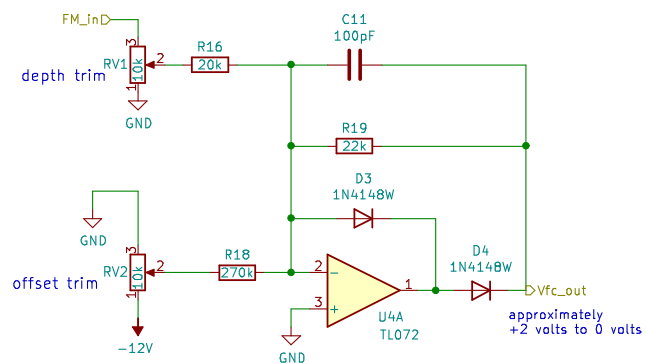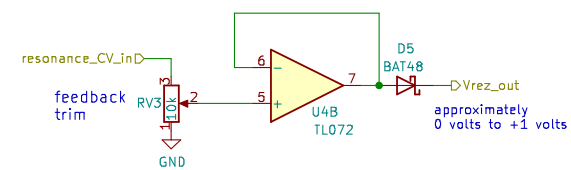   8

Sheet: power_supply

File: power_supply.sch

Author: Jordan Aceto
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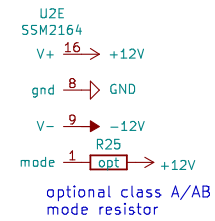Sheet: /
File: 2164SVF.sch

Title: 2164 SVF plug−in board

Size: A   Date: 2020−08−04   **Rev: 0**
KiCad E.D.A. kicad 5.1.6−c6e7f7d87ubuntu18.04.1   Id: 1/4

C1
47pF

R7
30k

R8
30k

high_pass_out

D1
6z2

D2
6z2

C6
220pF

band_pass_out

U2A
SSM2164

U2B
SSM2164

C9
220pF

low_pass_out

filter_input

R4
30k

R10
30k

R14
30k

U1A
TL072

U1B
TL072

U3B
TL072

R11
510

C3
560pF

Vfc_in

R15
510

C7
560pF

Vfc_in

R5
150k

C2
100pF

R9
30k

R6
15k

U3A
TL072

U2D
SSM2164

R13
30k

Vrez_in

R12
510

C4
560pF

U2C
SSM2164

unused

Title: 2164 SVF plug-in board

| Size: A4 | Date: 2020-08-04 | Rev: 0 |
| KiCad E.D.A. kicad 5.1.6-c6e7f7d87ubuntu18.04.1 | | Id: 2/4 |

Cutoff frequency CV scaler

Resonance CV scaler

FM_in

depth trim
RV1
10k
2

R16
20k

C11
100pF

R19
22k

D3
1N4148W

GND

offset trim
RV2
10k
2

R18
270k

D4
1N4148W

Vfc_out

approximately
+2 volts to 0 volts

−12V

GND

U4A
TL072

resonance_CV_in

feedback
trim
RV3
10k

6
5

U4B
TL072

7

D5
BAT48

Vrez_out

approximately
0 volts to +1 volts

GND

Title: 2164 SVF plug-in board

Size: A4 | Date: 2020−08−04 | Rev: 0
KiCad E.D.A. kicad 5.1.6−c6e7f7d87ubuntu18.04.1 | Id: 3/4

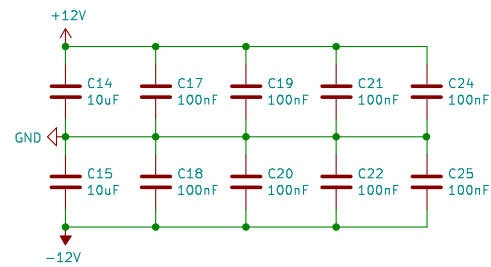# TL072 power connections

+12V

8 V+ U1C TL072 4 V-

8 V+ U3C TL072 4 V-

8 V+ U4C TL072 4 V-

−12V
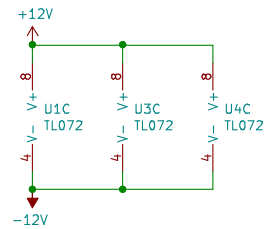
SSM2164 power connections

U2E
SSM2164

V+ 16 → +12V

gnd 8 → GND

V− 9 → −12V

mode 1 R25 opt → +12V

optional class A/AB
mode resistor

2164 protection

GND

D6
BAT48

−12V

Decoupling capacitors

+12V

| C14 10uF | C17 100nF | C19 100nF | C21 100nF | C24 100nF |

GND

| C15 10uF | C18 100nF | C20 100nF | C22 100nF | C25 100nF |

−12V

Sheet: /power_supply/
File: power_supply.sch

Title: 2164 SVF plug-in board

| Size: A4 | Date: 2020−08−04 | Rev: 0 |
| KiCad E.D.A. kicad 5.1.6−c6e7f7d87ubuntu18.04.1 | | Id: 4/4 |