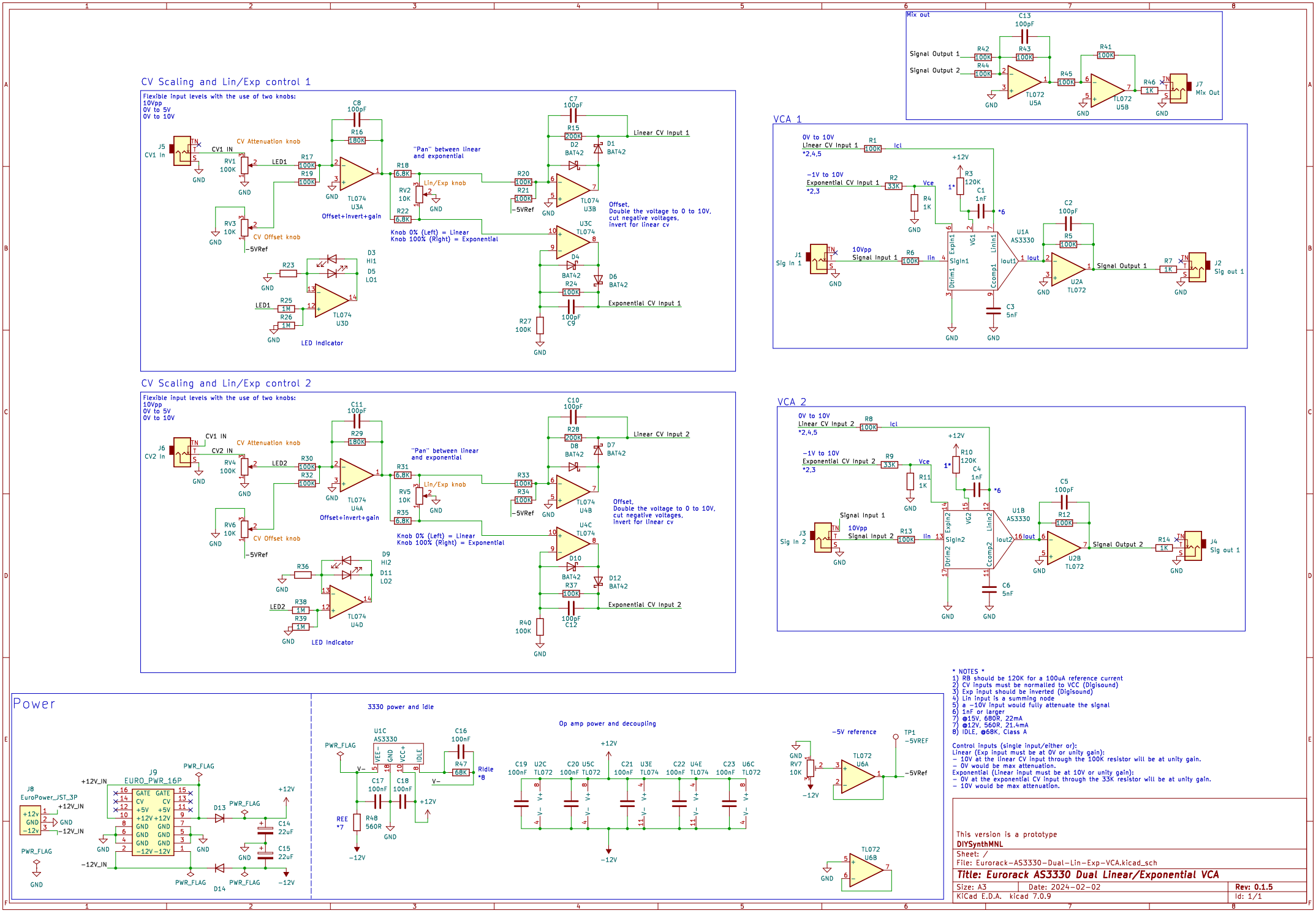
CV Scaling and Lin/Exp control 1
Flexible input levels with the use of two knobs:
10Vpp
0V to 5V
0V to 10V
J5
CV1 In
CV1 IN
CV Attenuation knob
RV1
100K
LED1
R17
100K
R19
100K
C8
100pF
R16
180K
TL074
U3A
Offset+invert+gain
RV3
10K
CV Offset knob
-5VRef
"Pan" between linear
and exponential
R18
6.8K
RV2
10K
Lin/Exp knob
R22
6.8K
Knob 0% (Left) = Linear
Knob 100% (Right) = Exponential
R20
100K
R21
100K
-5VRef
C7
100pF
R15
200K
D2
BAT42
D1
BAT42
Linear CV Input 1
TL074
U3B
Offset,
Double the voltage to 0 to 10V,
cut negative voltages,
invert for linear cv
U3C
TL074
D3
HI1
D5
LO1
R23
R25
1M
R26
1M
LED1
TL074
U3D
LED Indicator
D4
BAT42
R24
100K
D6
BAT42
Exponential CV Input 1
100pF
C9
R27
100K
CV Scaling and Lin/Exp control 2
Flexible input levels with the use of two knobs:
10Vpp
0V to 5V
0V to 10V
J6
CV2 In
CV1 IN
CV2 IN
CV Attenuation knob
RV4
100K
LED2
R30
100K
R32
100K
C11
100pF
R29
180K
TL074
U4A
Offset+invert+gain
RV6
10K
CV Offset knob
-5VRef
"Pan" between linear
and exponential
R31
6.8K
RV5
10K
Lin/Exp knob
R35
6.8K
Knob 0% (Left) = Linear
Knob 100% (Right) = Exponential
R33
100K
R34
100K
-5VRef
C10
100pF
R28
200K
D8
BAT42
D7
BAT42
Linear CV Input 2
TL074
U4B
Offset,
Double the voltage to 0 to 10V,
cut negative voltages,
invert for linear cv
U4C
TL074
D9
HI2
D11
LO2
R36
R38
1M
R39
1M
LED2
TL074
U4D
LED Indicator
D10
BAT42
R37
100K
D12
BAT42
Exponential CV Input 2
100pF
C12
R40
100K
Mix out
C13
100pF
Signal Output 1
Signal Output 2
R42
100K
R43
100K
R44
100K
TL072
U5A
R41
100K
R45
100K
TL072
U5B
R46
1K
J7
Mix Out
VCA 1
0V to 10V
Linear CV Input 1
*2,4,5
R1
100K
Icl
+12V
R3
120K
-1V to 10V
Exponential CV Input 1
*2,3
R2
33K
Vce
R4
1K
C1
1nF
*6
J1
Sig In 1
10Vpp
Signal Input 1
R6
100K
Iin
Expin1
SigIn1
Dtrim1
VG1
Linin1
Ccomp1
U1A
AS3330
Iout1
C2
100pF
R5
100K
U2A
TL072
Signal Output 1
R7
1K
J2
Sig out 1
C3
5nF
VCA 2
0V to 10V
Linear CV Input 2
*2,4,5
R8
100K
Icl
+12V
R10
120K
-1V to 10V
Exponential CV Input 2
*2,3
R9
33K
Vce
R11
1K
C4
1nF
*6
J3
Sig In 2
Signal Input 1
10Vpp
Signal Input 2
R13
100K
Iin
Expin2
SigIn2
Dtrim2
VG2
Linin2
Ccomp2
U1B
AS3330
Iout2
C5
100pF
R12
100K
U2B
TL072
Signal Output 2
R14
1K
J4
Sig out 1
C6
5nF
Power
J8
EuroPower_JST_3P
+12v
GND
-12v
+12V_IN
-12V_IN
J9
EURO_PWR_16P
GATE GATE
CV CV
+5V +5V
+12V +12V
GND GND
GND GND
-12V -12V
PWR_FLAG
D13
D14
C14
22uF
C15
22uF
+12V
-12V
3330 power and idle
U1C
AS3330
VEE-
GND
VCC+
IDLE
C16
100nF
R47
68K
RIdle
*8
C17
100nF
C18
100nF
REE
*7
R48
560R
Op amp power and decoupling
C19
100nF
U2C
TL072
C20
100nF
U5C
TL072
C21
100nF
U3E
TL074
C22
100nF
U4E
TL074
C23
100nF
U6C
TL072
-5V reference
RV7
10K
TL072
U6A
TP1
-5VREF
-5VRef
TL072
U6B
* NOTES *
1) RB should be 120K for a 100uA reference current
2) CV inputs must be normalled to VCC (Digisound)
3) Exp input should be inverted (Digisound)
4) Lin input is a summing node
5) a -10V input would fully attenuate the signal
6) 1nF or larger
7) @15V, 68OR, 22mA
7) @12V, 56OR, 21.4mA
8) IDLE, @68K, Class A
Control inputs (single input/either or):
Linear (Exp input must be at 0V or unity gain):
- 10V at the linear CV input through the 100K resistor will be at unity gain.
- 0V would be max attenuation.
Exponential (Linear input must be at 10V or unity gain):
- 0V at the exponential CV input through the 33K resistor will be at unity gain.
- 10V would be max attenuation.
This version is a prototype
DIYSynthMNL
Sheet: /
File: Eurorack-AS3330-Dual-Lin-Exp-VCA.kicad_sch
Title: Eurorack AS3330 Dual Linear/Exponential VCA
Size: A3
Date: 2024-02-02
Rev: 0.1.5
KiCad E.D.A. kicad 7.0.9
Id: 1/1