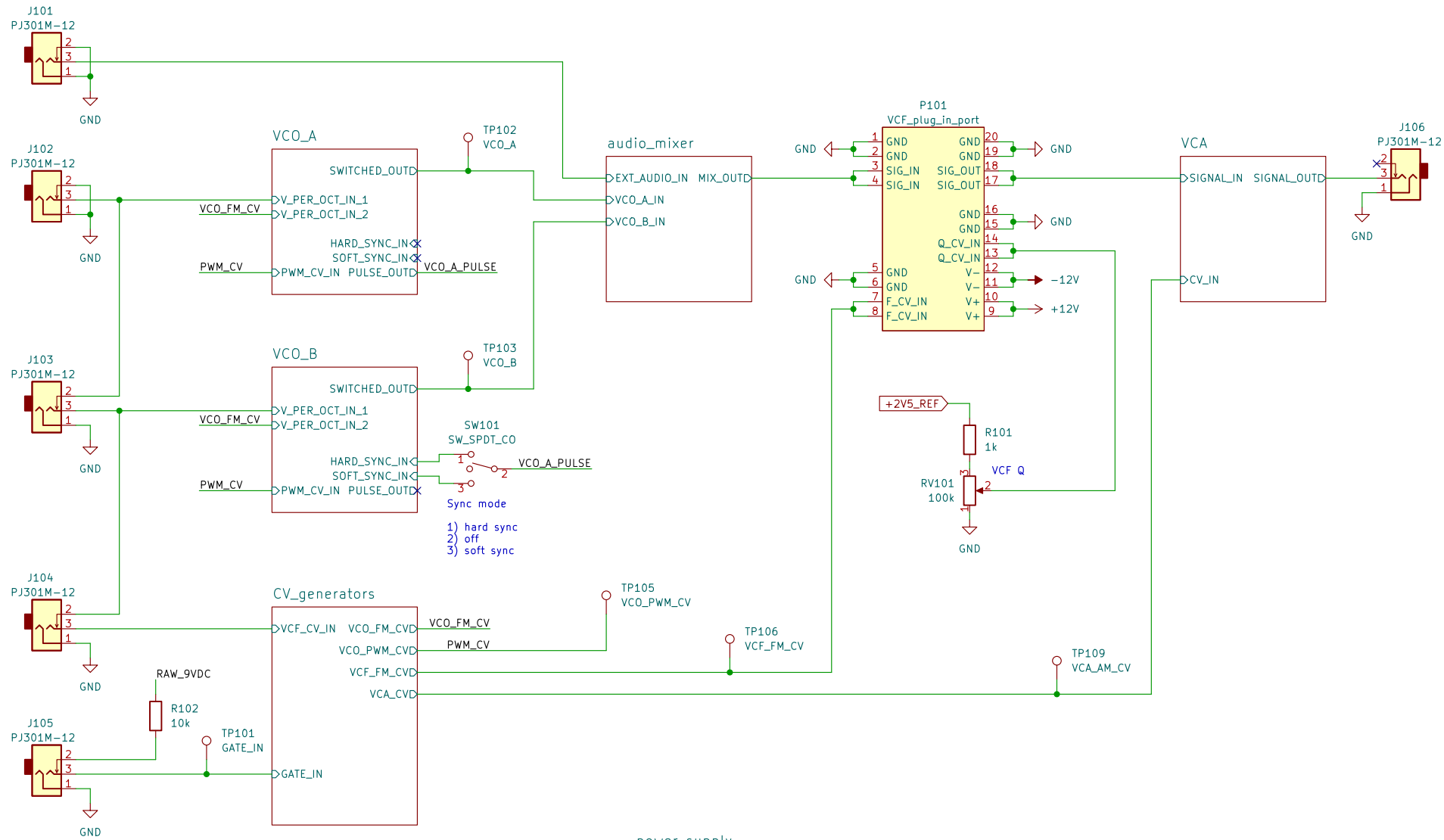
J101
PJ301M-12
GND
J102
PJ301M-12
GND
VCO_A
SWITCHED_OUT
V_PER_OCT_IN_1
V_PER_OCT_IN_2
HARD_SYNC_IN
SOFT_SYNC_IN
PWM_CV_IN
PULSE_OUT
VCO_FM_CV
PWM_CV
VCO_A_PULSE
TP102
VCO_A
audio_mixer
EXT_AUDIO_IN
MIX_OUT
VCO_A_IN
VCO_B_IN
P101
VCF_plug_in_port
GND
SIG_IN
SIG_OUT
Q_CV_IN
V-
V+
F_CV_IN
-12V
+12V
VCA
SIGNAL_IN
SIGNAL_OUT
CV_IN
J106
PJ301M-12
J103
PJ301M-12
GND
VCO_B
TP103
VCO_B
SW101
SW_SPDT_CO
Sync mode
1) hard sync
2) off
3) soft sync
+2V5_REF
R101
1k
RV101
100k
VCF Q
J104
PJ301M-12
GND
CV_generators
VCF_CV_IN
VCO_FM_CV
VCO_PWM_CV
VCF_FM_CV
VCA_CV
TP105
VCO_PWM_CV
TP106
VCF_FM_CV
TP109
VCA_AM_CV
RAW_9VDC
R102
10k
J105
PJ301M-12
GND
TP101
GATE_IN
GATE_IN
The gate input jack is normalled to a positive voltage so that the gate is ON when no jack is inserted.
This allows you to control the volume with the VCA sustain knob with nothing plugged in, so you can hear the synth.
Note that the VCF sustain knob will also influence the VCF with no gate plugged in.
power_supply
J107
PJ-011A
RAW_9VDC
9VDC_IN
GND
Author: Jordan Aceto
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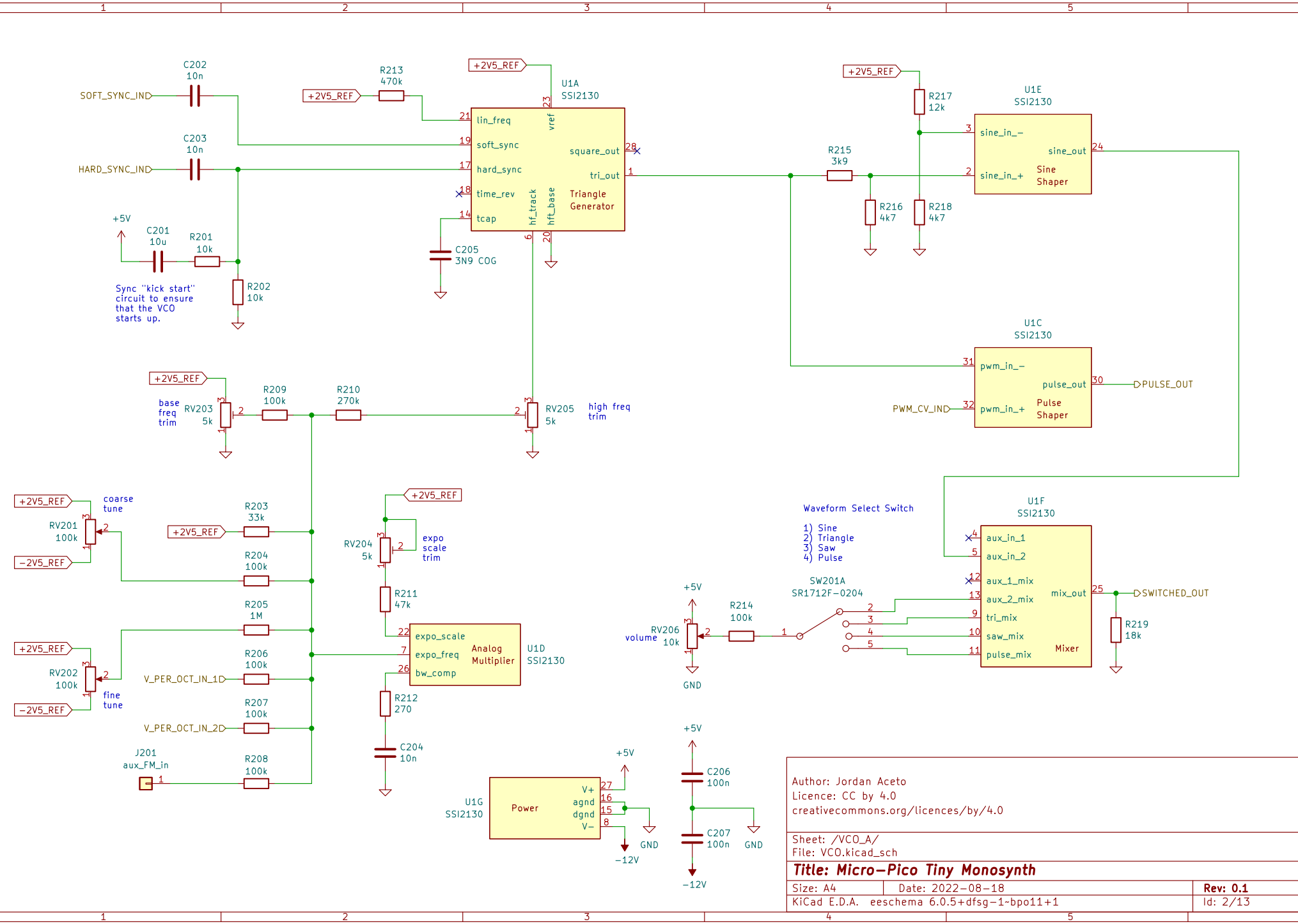
Sheet: /
File: micro_pico.kicad_sch
Title: Micro-Pico Tiny Monosynth
Size: A4
Date: 2022-08-18
Rev: 0.1
KiCad E.D.A. eeschema 6.0.5+dfsg-1~bpo11+1
Id: 1/13


SOFT_SYNC_IN
HARD_SYNC_IN
C202
10n
C203
10n
R213
470k
+2V5_REF
U1A
SSI2130
lin_freq
soft_sync
hard_sync
time_rev
tcap
vref
square_out
tri_out
hf_track
hfT_base
Triangle
Generator
C205
3N9 COG
+5V
C201
10u
R201
10k
R202
10k
Sync "kick start"
circuit to ensure
that the VCO
starts up.
R215
3k9
R216
4k7
R217
12k
R218
4k7
U1E
SSI2130
sine_in_−
sine_in_+
sine_out
Sine
Shaper
U1C
SSI2130
pwm_in_−
pwm_in_+
pulse_out
Pulse
Shaper
PWM_CV_IN
PULSE_OUT
base
freq
trim
RV203
5k
R209
100k
R210
270k
RV205
5k
high freq
trim
coarse
tune
RV201
100k
−2V5_REF
R203
33k
R204
100k
R205
1M
RV202
100k
fine
tune
V_PER_OCT_IN_1
R206
100k
V_PER_OCT_IN_2
R207
100k
J201
aux_FM_in
R208
100k
RV204
5k
expo
scale
trim
R211
47k
R212
270
C204
10n
expo_scale
expo_freq
bw_comp
Analog
Multiplier
U1D
SSI2130
Waveform Select Switch
1) Sine
2) Triangle
3) Saw
4) Pulse
SW201A
SR1712F−0204
RV206
volume
10k
R214
100k
GND
U1F
SSI2130
aux_in_1
aux_in_2
aux_1_mix
aux_2_mix
tri_mix
saw_mix
pulse_mix
mix_out
Mixer
R219
18k
SWITCHED_OUT
U1G
SSI2130
Power
V+
agnd
dgnd
V−
−12V
C206
100n
C207
100n
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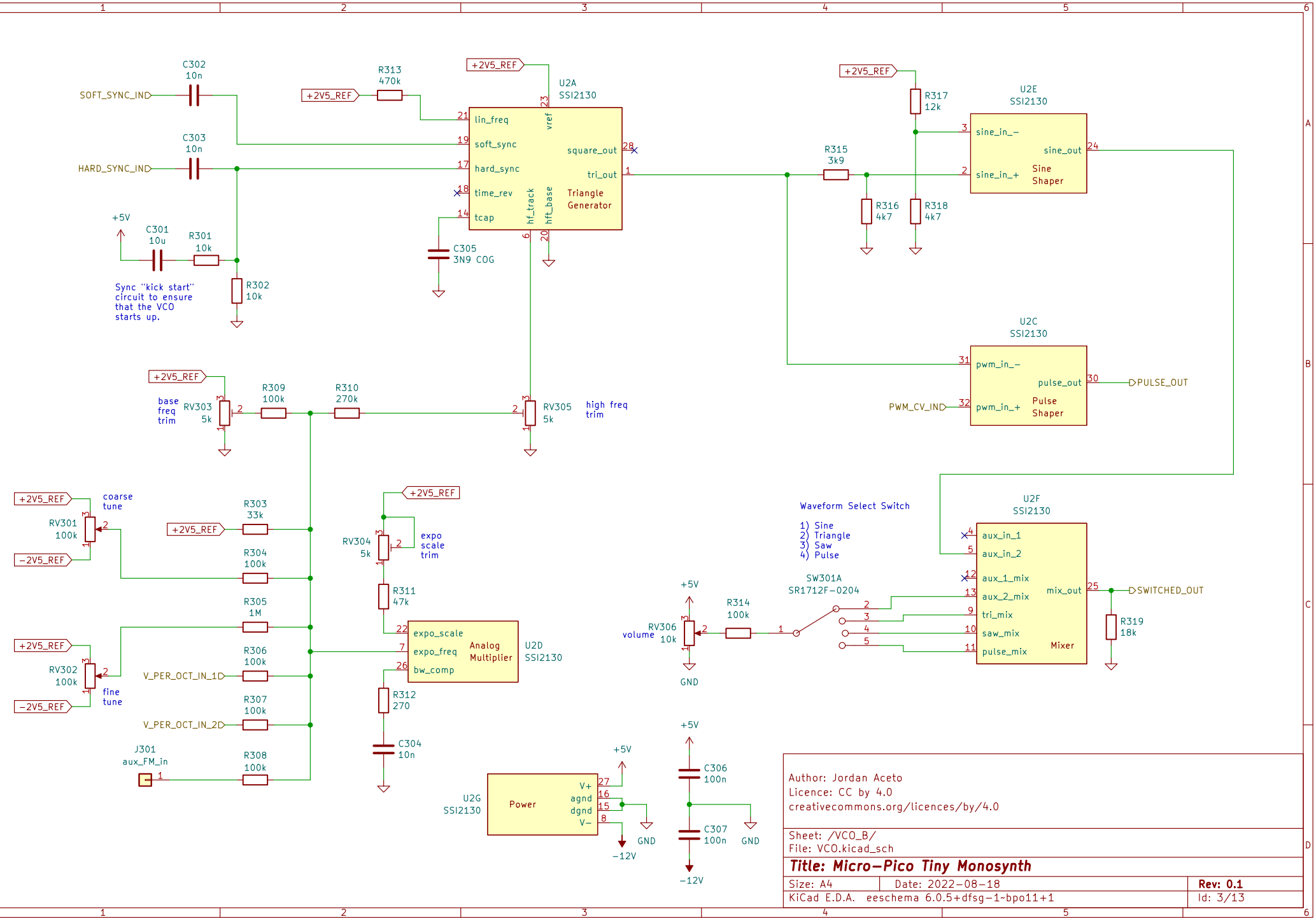
Sheet: /VCO_A/
File: VCO.kicad_sch
Title: Micro−Pico Tiny Monosynth
Size: A4
Date: 2022−08−18
Rev: 0.1
KiCad E.D.A. eeschema 6.0.5+dfsg−1~bpo11+1
Id: 2/13


SOFT_SYNC_IN
HARD_SYNC_IN
C302
10n
C303
10n
+5V
C301
10u
R301
10k
R302
10k
Sync "kick start" circuit to ensure that the VCO starts up.
+2V5_REF
R313
470k
U2A
SSI2130
lin_freq
soft_sync
hard_sync
time_rev
tcap
vref
square_out
tri_out
hf_track
hfl_base
Triangle Generator
C305
3N9 COG
R315
3k9
R316
4k7
R317
12k
R318
4k7
U2E
SSI2130
sine_in_−
sine_in_+
sine_out
Sine Shaper
U2C
SSI2130
pwm_in_−
pwm_in_+
pulse_out
Pulse Shaper
PULSE_OUT
PWM_CV_IN
base freq trim
RV303
5k
R309
100k
R310
270k
RV305
5k
high freq trim
coarse tune
RV301
100k
−2V5_REF
fine tune
RV302
100k
R303
33k
R304
100k
R305
1M
R306
100k
R307
100k
R308
100k
V_PER_OCT_IN_1
V_PER_OCT_IN_2
J301
aux_FM_in
RV304
5k
expo scale trim
R311
47k
R312
270
C304
10n
expo_scale
expo_freq
bw_comp
Analog Multiplier
U2D
SSI2130
Waveform Select Switch
1) Sine
2) Triangle
3) Saw
4) Pulse
SW301A
SR1712F−0204
RV306
volume
10k
R314
100k
GND
U2F
SSI2130
aux_in_1
aux_in_2
aux_1_mix
aux_2_mix
tri_mix
saw_mix
pulse_mix
mix_out
Mixer
SWITCHED_OUT
R319
18k
U2G
SSI2130
Power
V+
agnd
dgnd
V−
−12V
C306
100n
C307
100n
Author: Jordan Aceto
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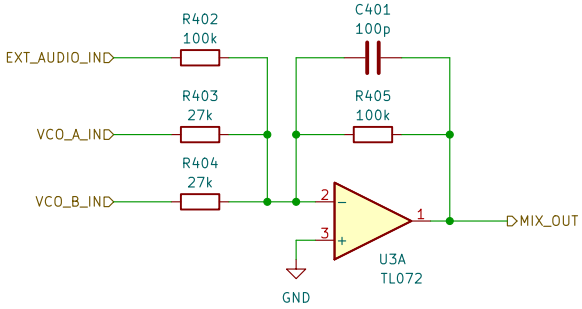
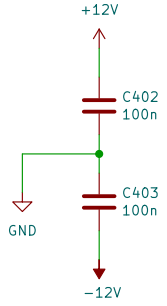
Sheet: /VCO_B/
File: VCO.kicad_sch
Title: Micro−Pico Tiny Monosynth
Size: A4
Date: 2022−08−18
Rev: 0.1
KiCad E.D.A. eeschema 6.0.5+dfsg−1~bpo11+1
Id: 3/13





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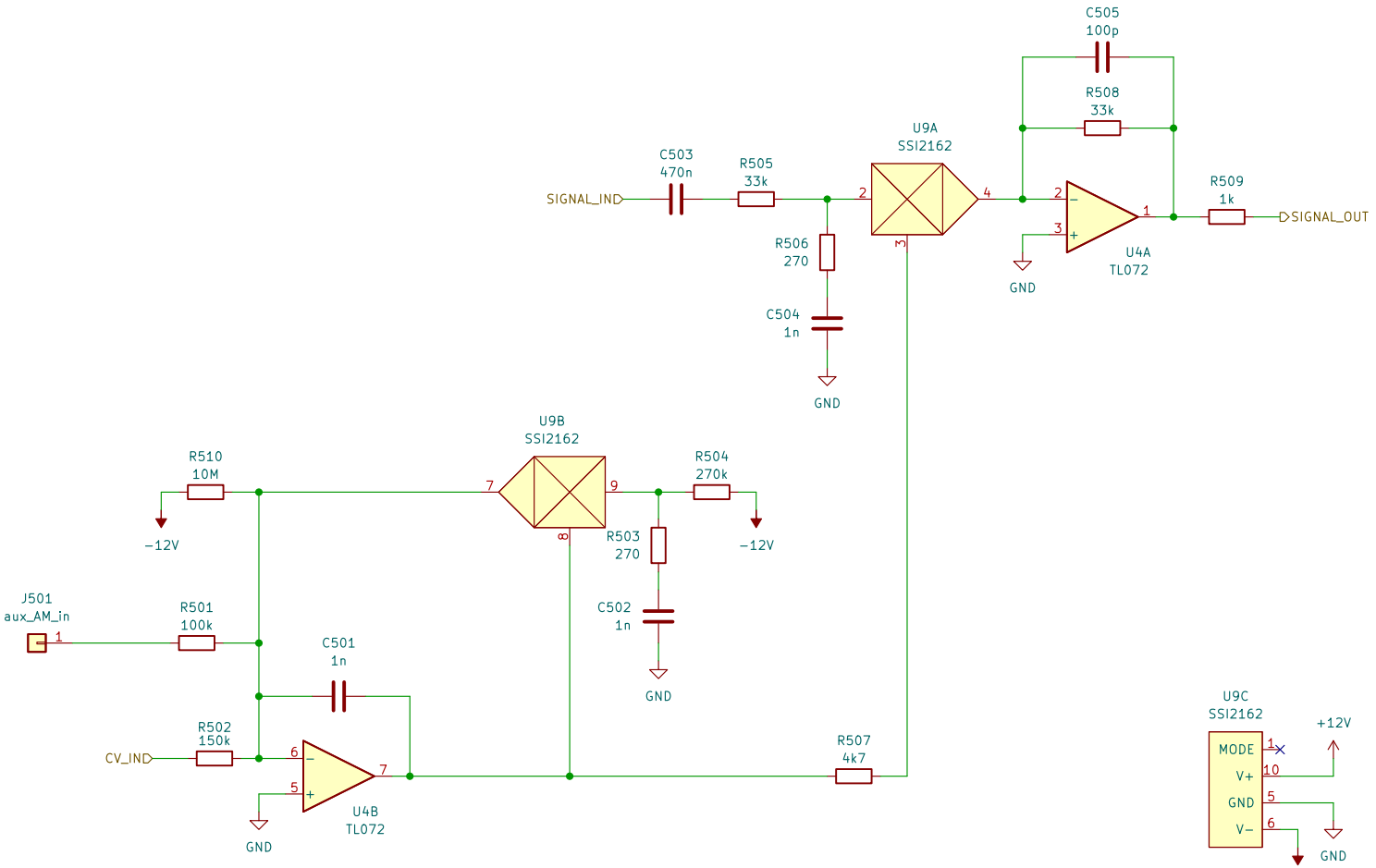
Sheet: /audio_mixer/
File: audio_mixer.kicad_sch

Title: Micro-Pico Tiny Monosynth

Size: A4	Date: 2022-08-18	**Rev: 0.1**
KiCad E.D.A. eeschema 6.0.5+dfsg-1~bpo11+1		Id: 4/13



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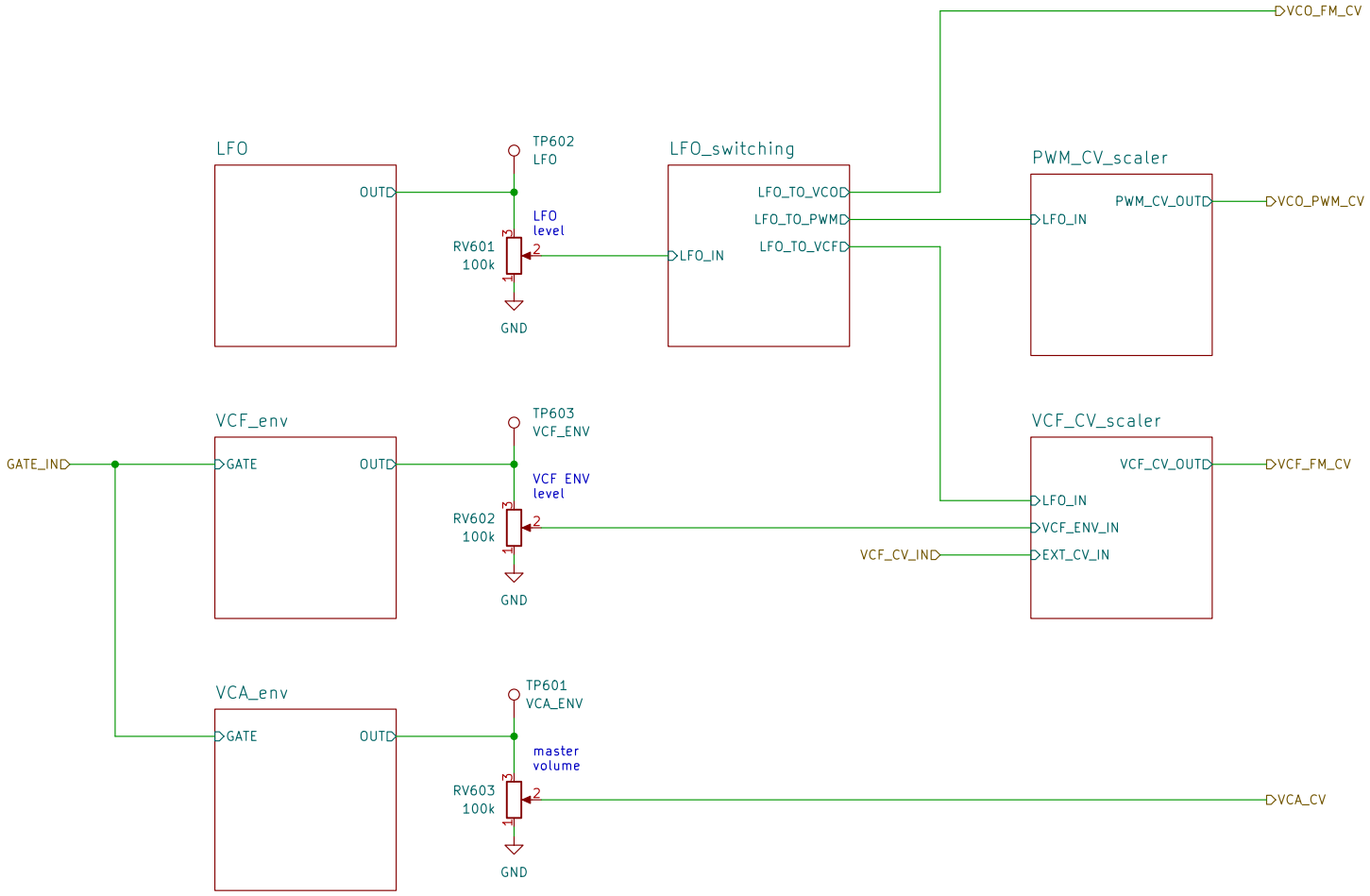
Sheet: /VCA/
File: VCA.kicad_sch

Title: Micro−Pico Tiny Monosynth

Size: A4	Date: 2022−08−18	**Rev: 0.1**
KiCad E.D.A. eeschema 6.0.5+dfsg−1~bpo11+1		Id: 5/13



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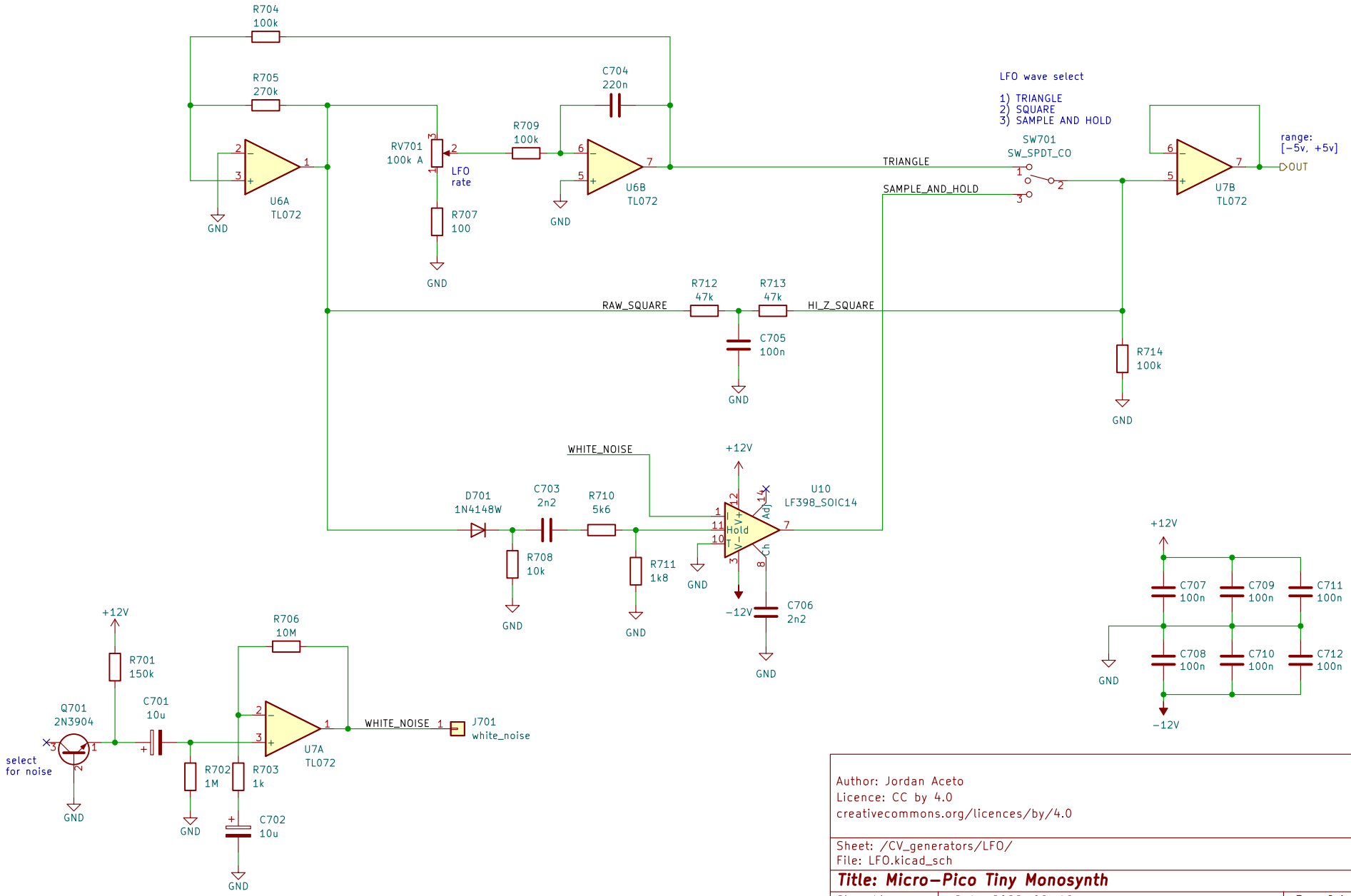
Sheet: /CV_generators/
File: CV_generators.kicad_sch

Title: Micro-Pico Tiny Monosynth

Size: A4	Date: 2022-08-18	**Rev: 0.1**
KiCad E.D.A. eeschema 6.0.5+dfsg-1~bpo11+1		Id: 6/13



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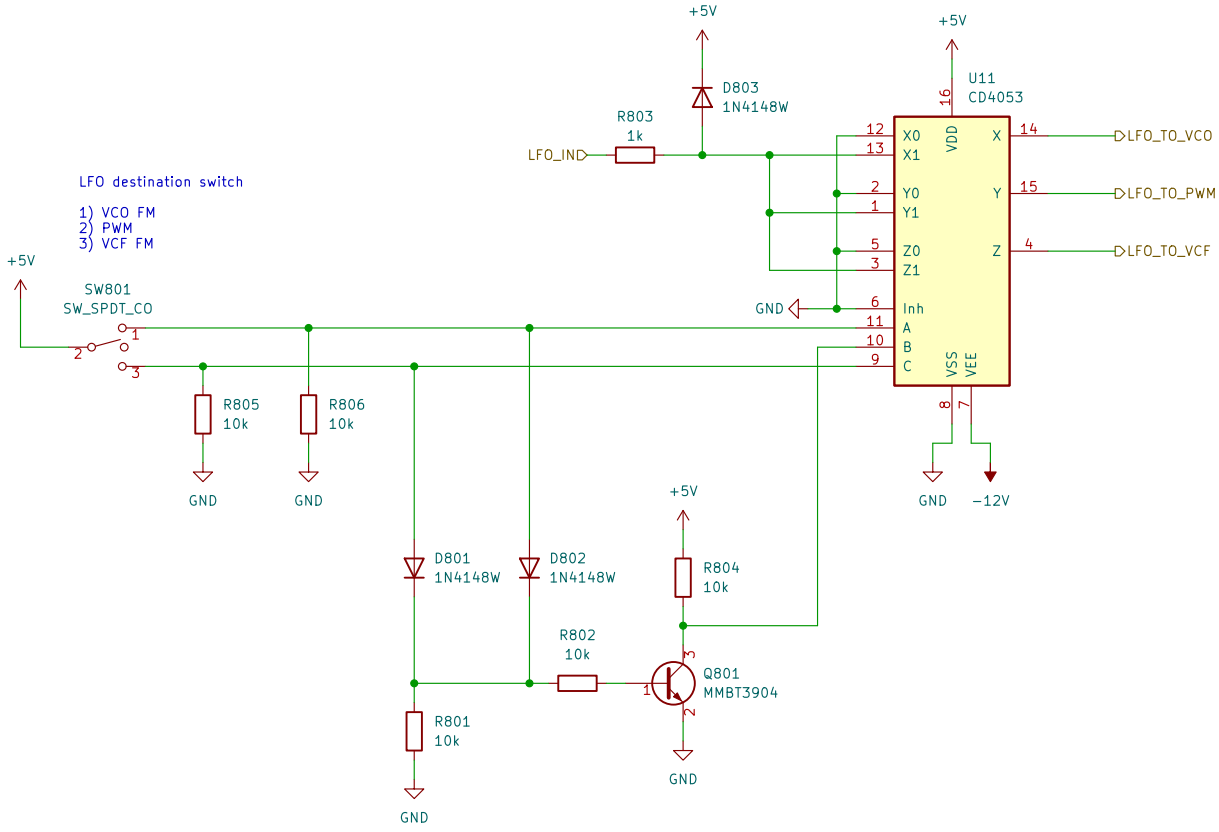
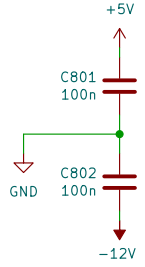
File: LFO.kicad_sch

Title: Micro−Pico Tiny Monosynth

Size: A4	Date: 2022−08−18	**Rev: 0.1**
KiCad E.D.A. eeschema 6.0.5+dfsg−1−bpo11+1		Id: 7/13





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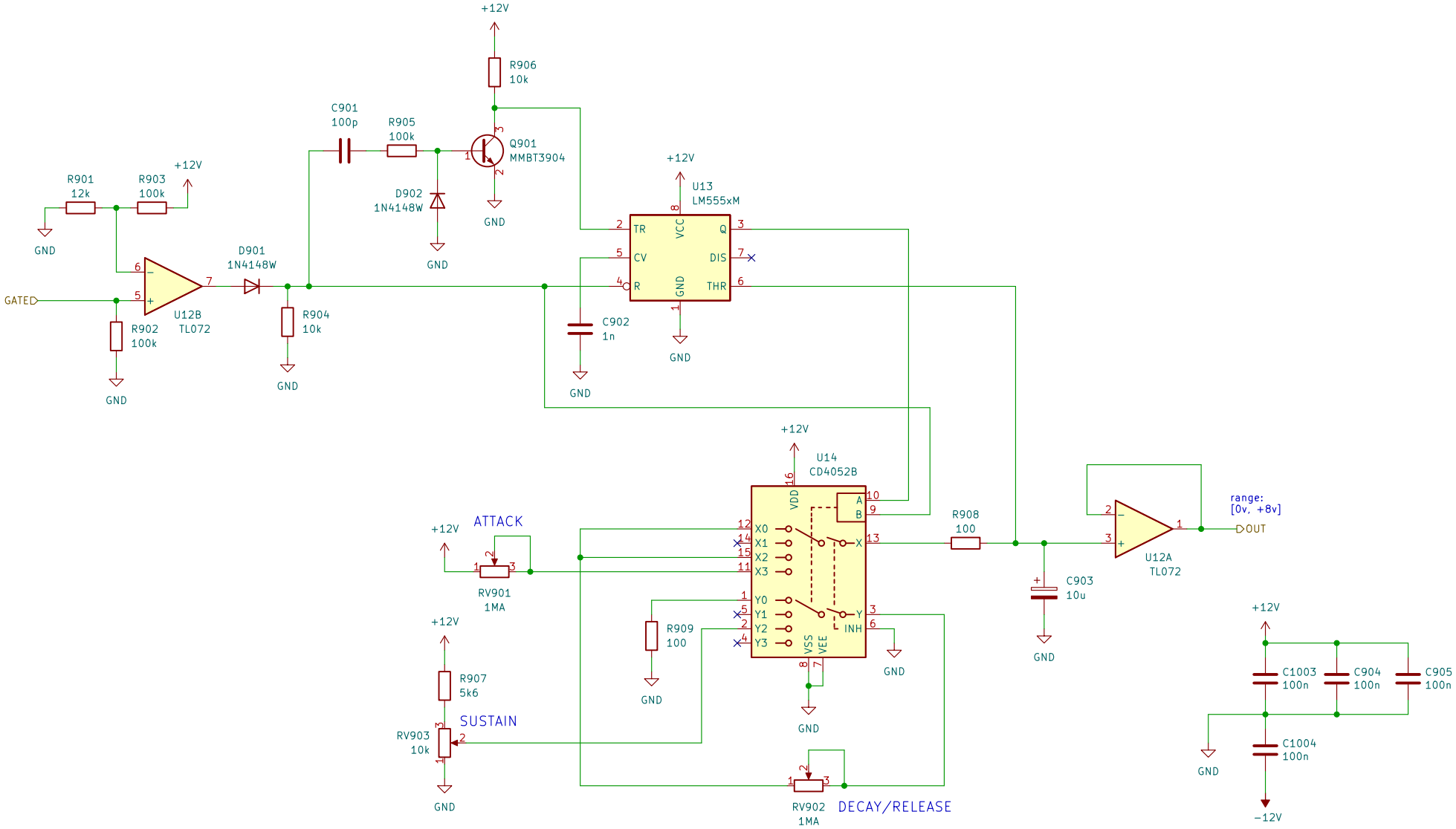
File: LFO_switching.kicad_sch

Title: Micro−Pico Tiny Monosynth

Size: A4	Date: 2022−08−18	**Rev: 0.1**
KiCad E.D.A. eeschema 6.0.5+dfsg−1−bpo11+1		Id: 8/13



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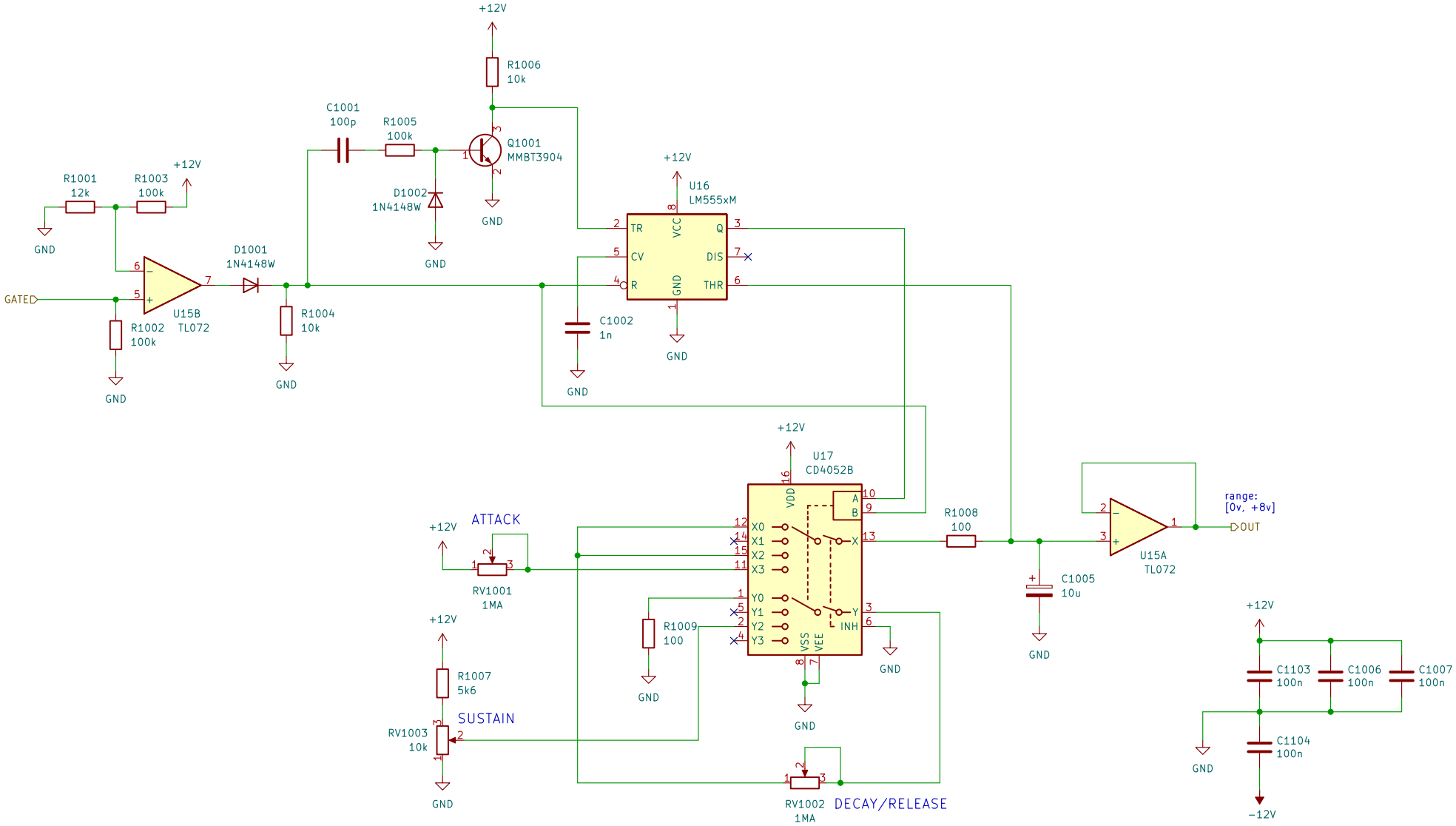
Sheet: /CV_generators/VCF_env/
File: ADSR.kicad_sch

Title: Micro-Pico Tiny Monosynth

Size: A4	Date: 2022-08-18	**Rev: 0.1**
KiCad E.D.A.	eeschema 6.0.5+dfsg-1-bpo11+1	Id: 10/13



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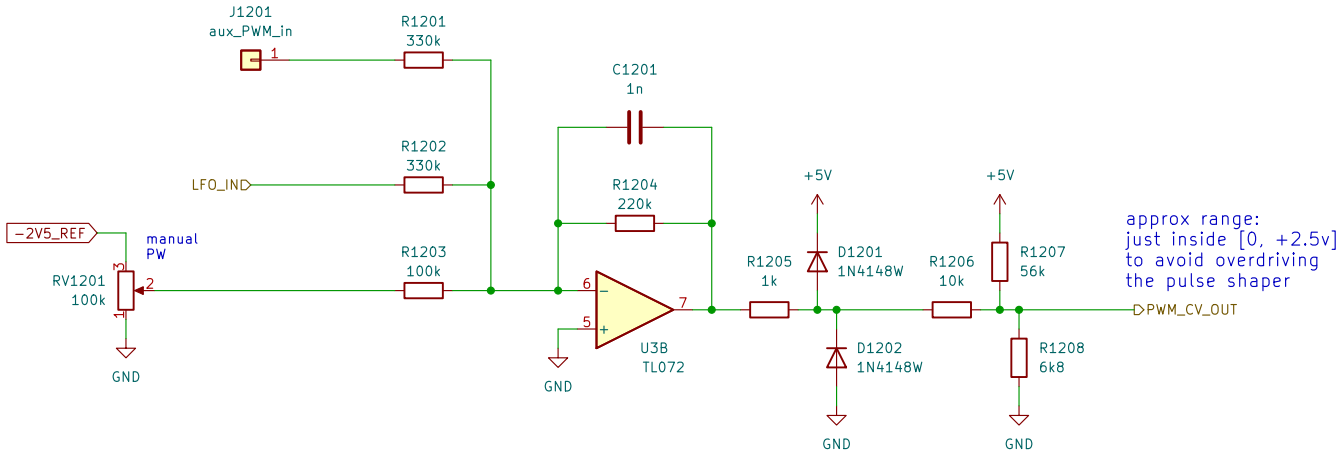
Sheet: /CV_generators/VCA_env/
File: ADSR.kicad_sch

Title: Micro-Pico Tiny Monosynth

Size: A4	Date: 2022-08-18	**Rev: 0.1**
KiCad E.D.A.	eeschema 6.0.5+dfsg-1-bpo11+1	Id: 11/13



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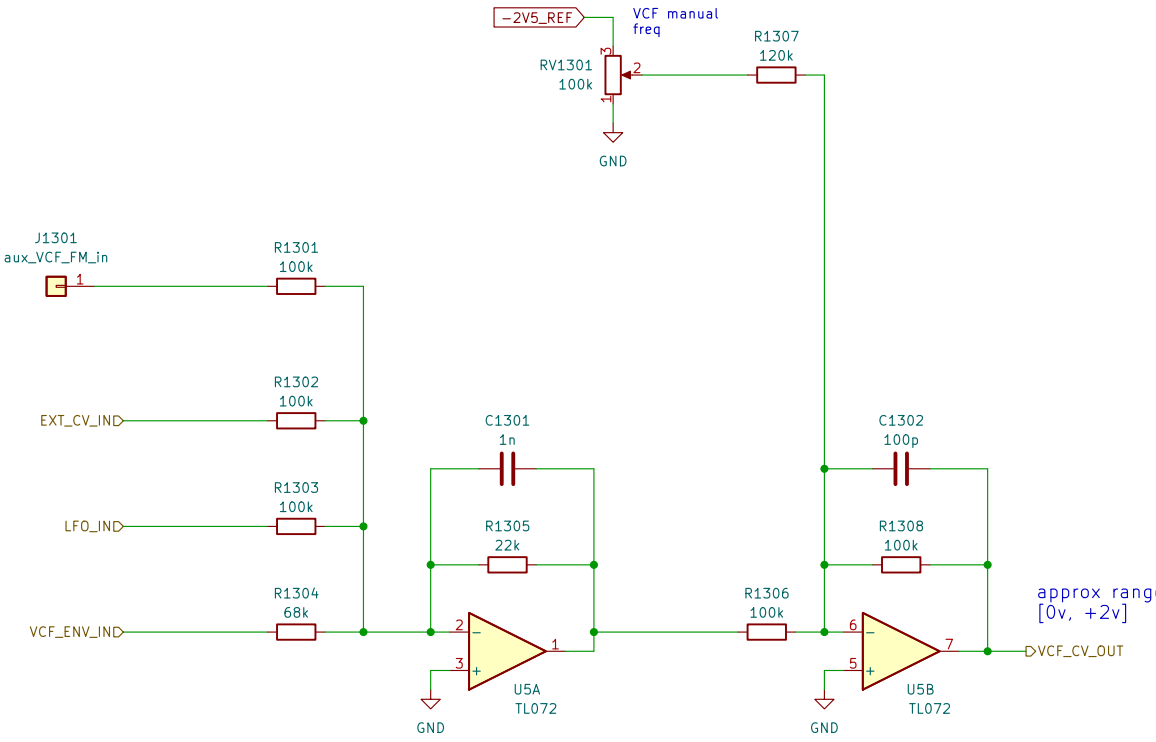
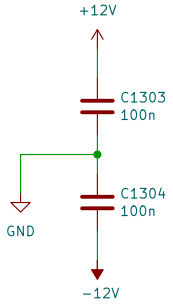
Sheet: /CV_generators/PWM_CV_scaler/
File: PWM_CV_scaler.kicad_sch

Title: Micro−Pico Tiny Monosynth

Size: A4	Date: 2022−08−18	**Rev: 0.1**
KiCad E.D.A.	eeschema 6.0.5+dfsg−1~bpo11+1	Id: 12/13





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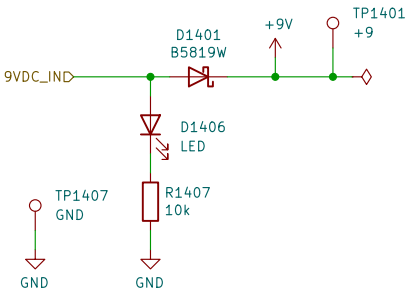
Sheet: /CV_generators/VCF_CV_scaler/
File: VCF_CV_scaler.kicad_sch

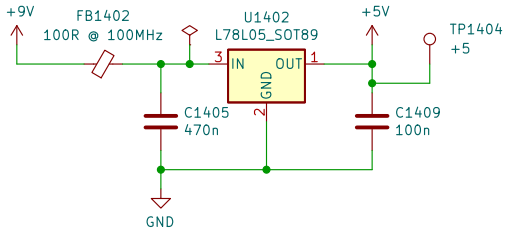
Title: Micro−Pico Tiny Monosynth

Size: A4	Date: 2022−08−18	**Rev: 0.1**
KiCad E.D.A. eeschema 6.0.5+dfsg−1~bpo11+1		Id: 13/13

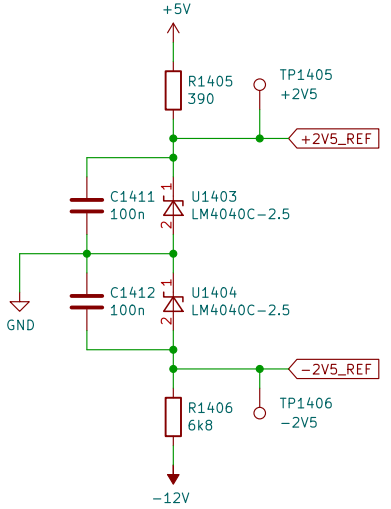
9VDC power entry



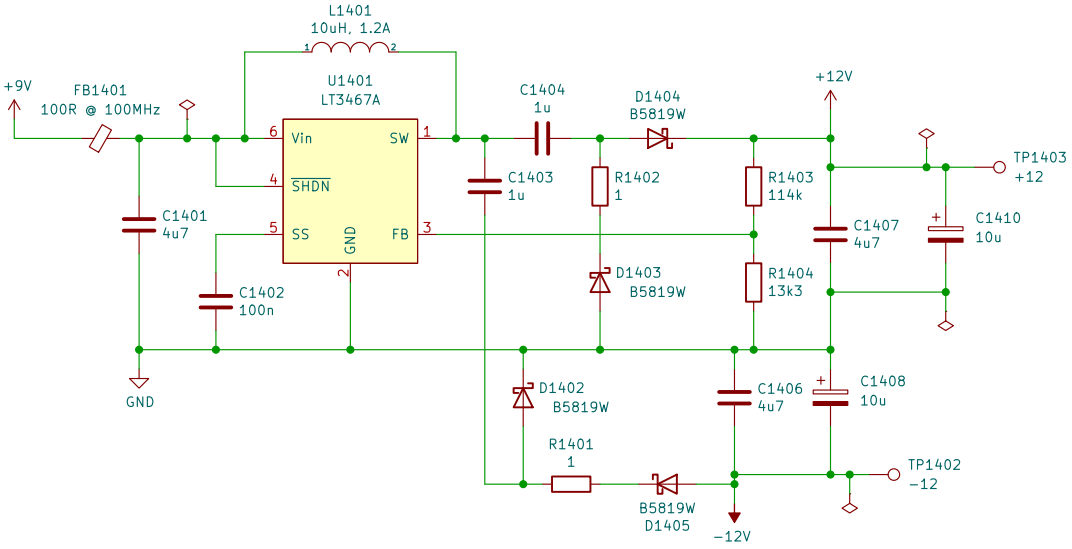
5V regulator



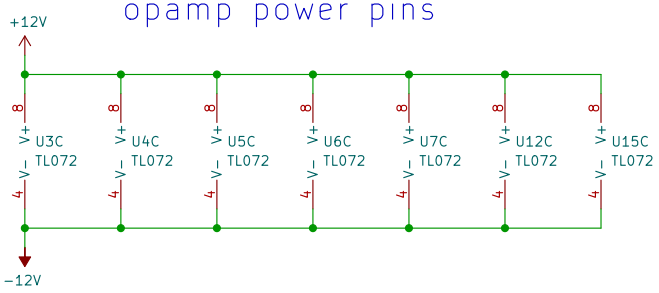
+/− 2.5V ref generator



+/− 12V DC−DC converter



opamp power pins



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Sheet: /power_supply/
File: power_supply.kicad_sch

Title: Micro−Pico Tiny Monosynth

Size: A4	Date: 2022−08−18	**Rev: 0.1**
KiCad E.D.A.	eeschema 6.0.5+dfsg−1−bpo11+1	Id: 14/13