

KOMA FieldKit

Sheet: KomaFieldKit-v5-AudioProcessingSheet: KomaFieldKit-v5-AudioOut

Audio Processing

Audio Out

File: KomaFieldKit-v5-AudioProcessing.schFile: KomaFieldKit-v5-AudioOut.sch

Sheet: KomaFieldKit-v5-CVProcessing Sheet: KomaFieldKit-v5-MotorControl

CV Processing

Motor Control

LFO

File: KomaFieldKit-v5-CVProcessing.sch File: KomaFieldKit-v5-MotorControl.sch

Sheet: KomaFieldKit-v5-Radio Sheet: KomaFieldKit-v5-PowerMechanic

Radio

Power / Mechanical

Analog Signal Interface

File: KomaFieldKit-v5-Radio.sch File: KomaFieldKit-v5-PowerMechanic.schFile: KomaFieldKit-v5-AnalogSignal.sch

- Current Consumption -
- Quiescent 80mA
- Speaker Full Blast +220mA
- DC Int. Full Blast +500mA
- Total Full Blast 800mA
- Total Margin 850mA

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Sheet: /

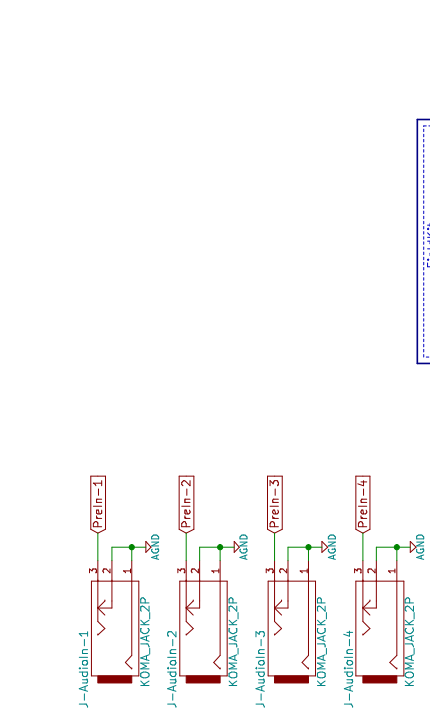
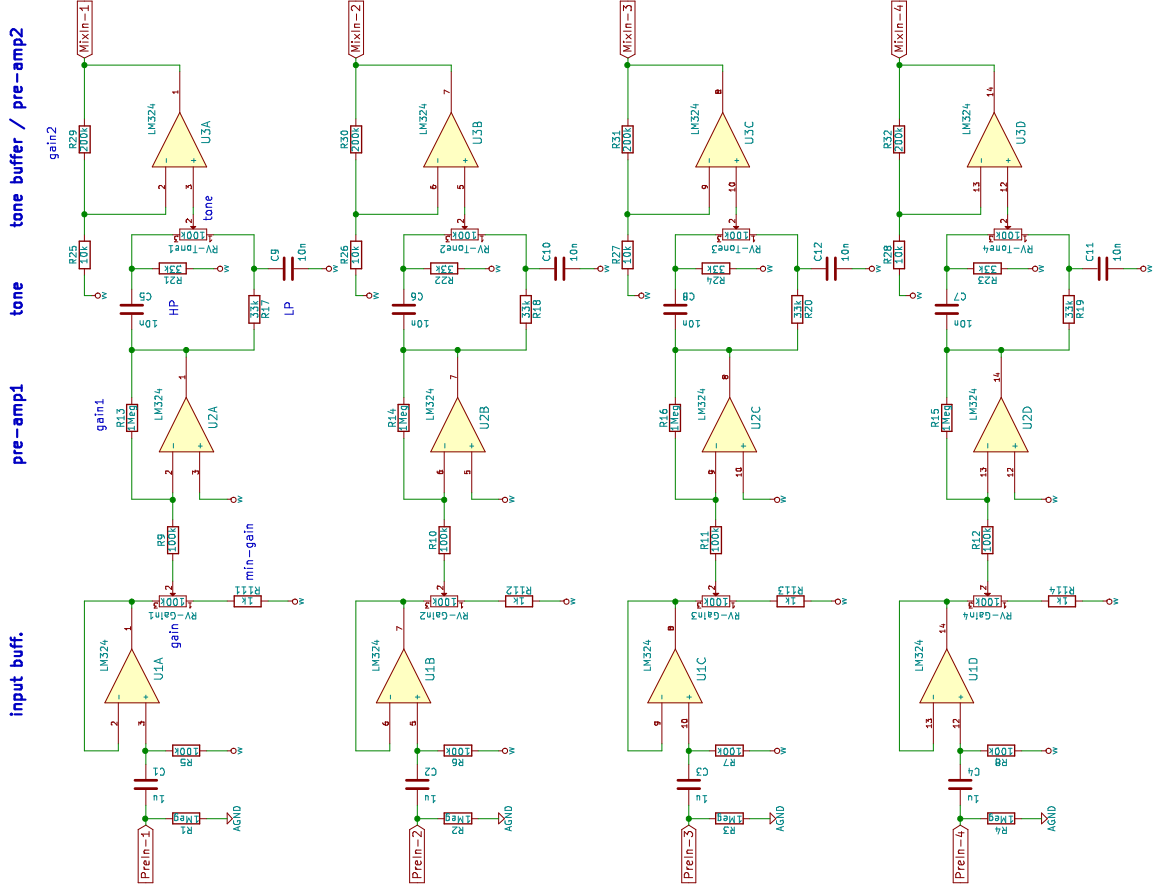
File: KomaFieldKit-v5.sch

Title: Field Kit PR1

Size: A4 Date: 13 / 07 / 2017 Rev: 1

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Pre-Amp / Tone

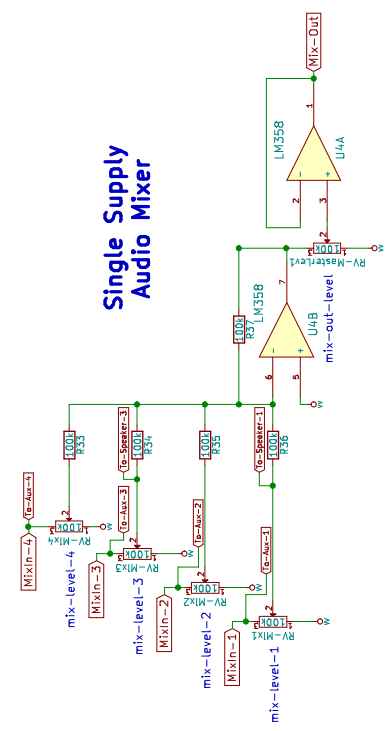


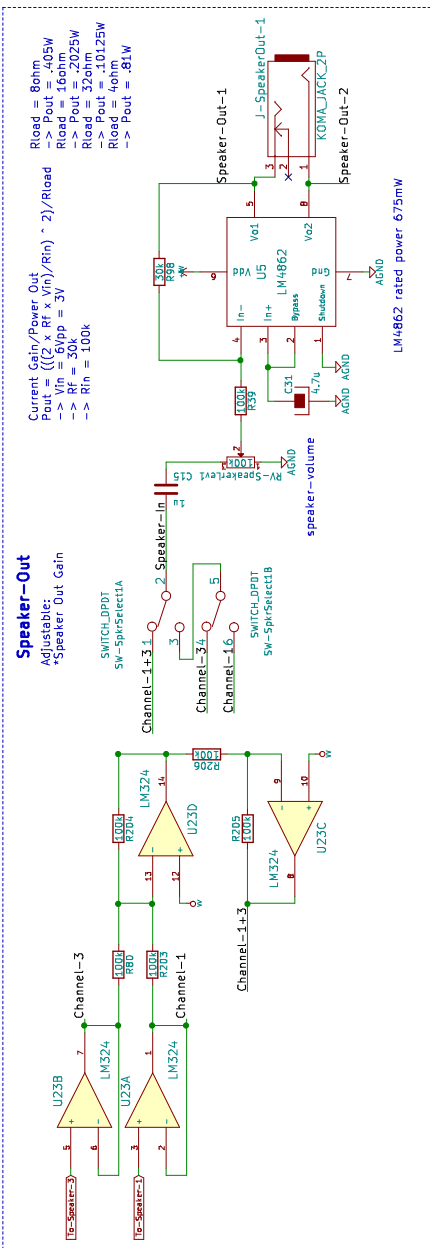
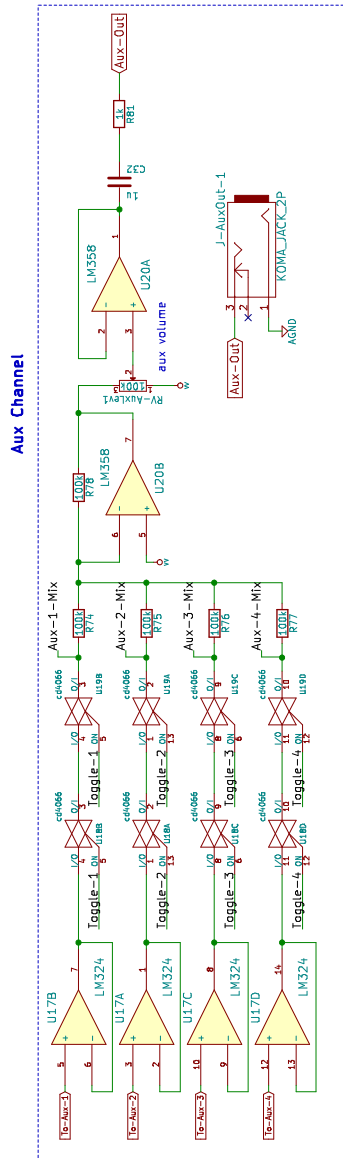
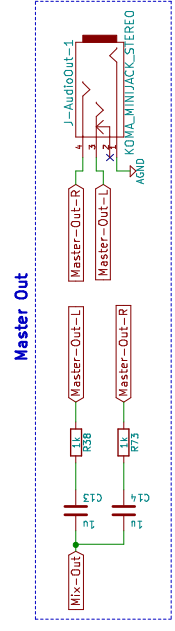
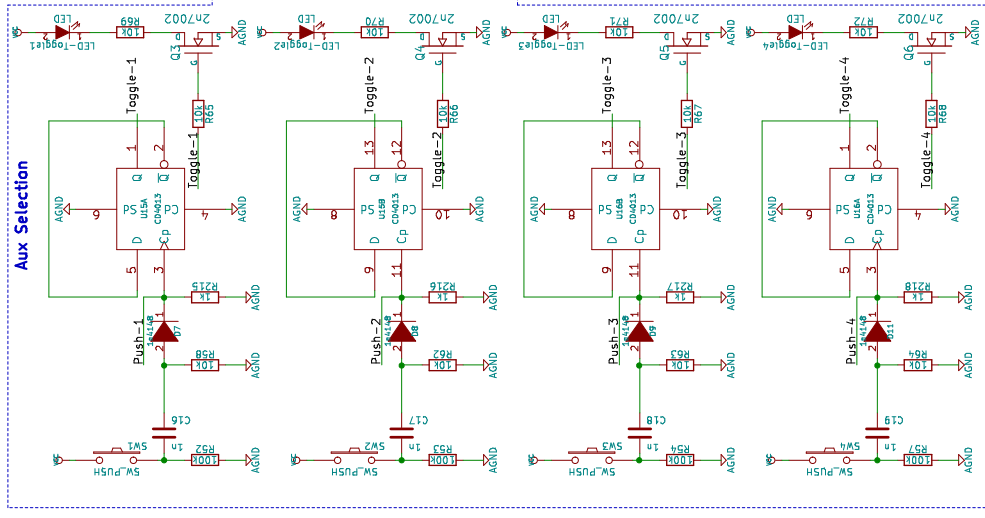
FieldKit

Audio Processing

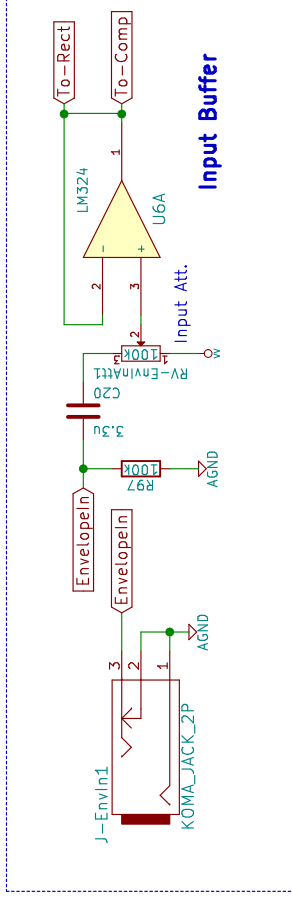
Adjustable:
 *Max Gain.
 *Tone Control.
 *Tone Cutoff Freq.

Single Supply Audio Mixer





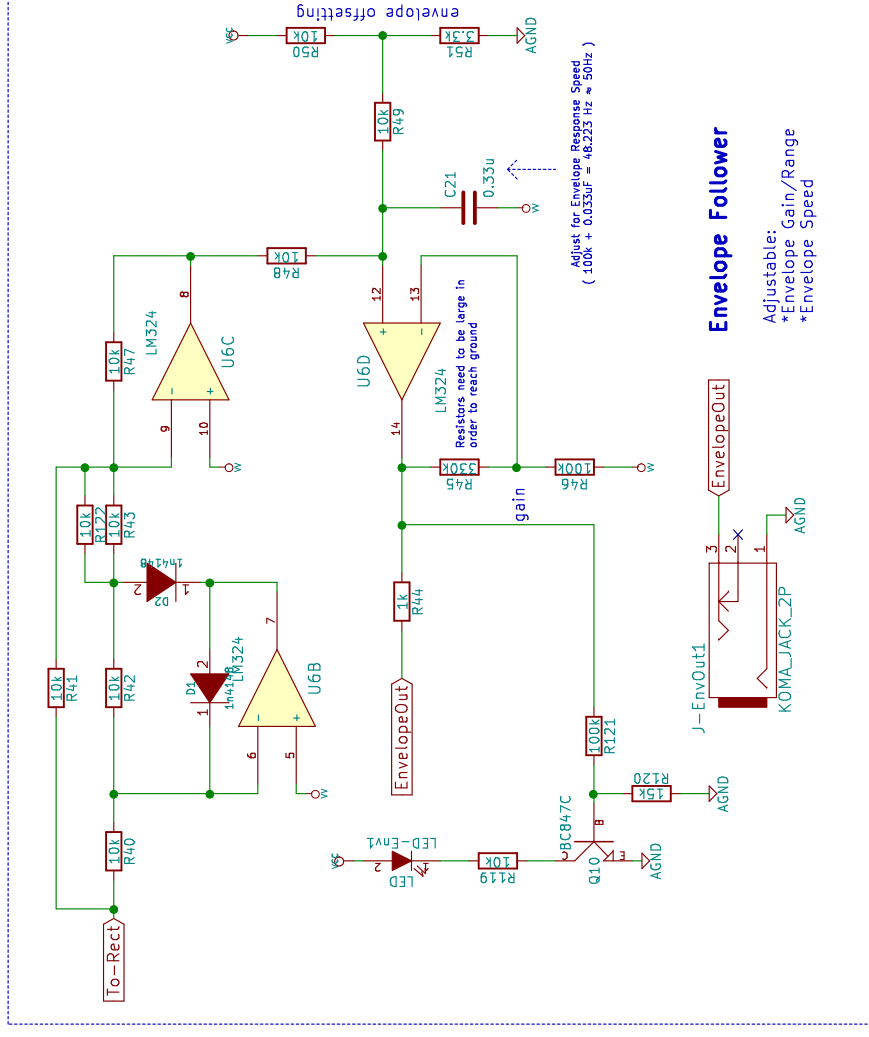
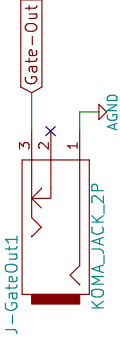
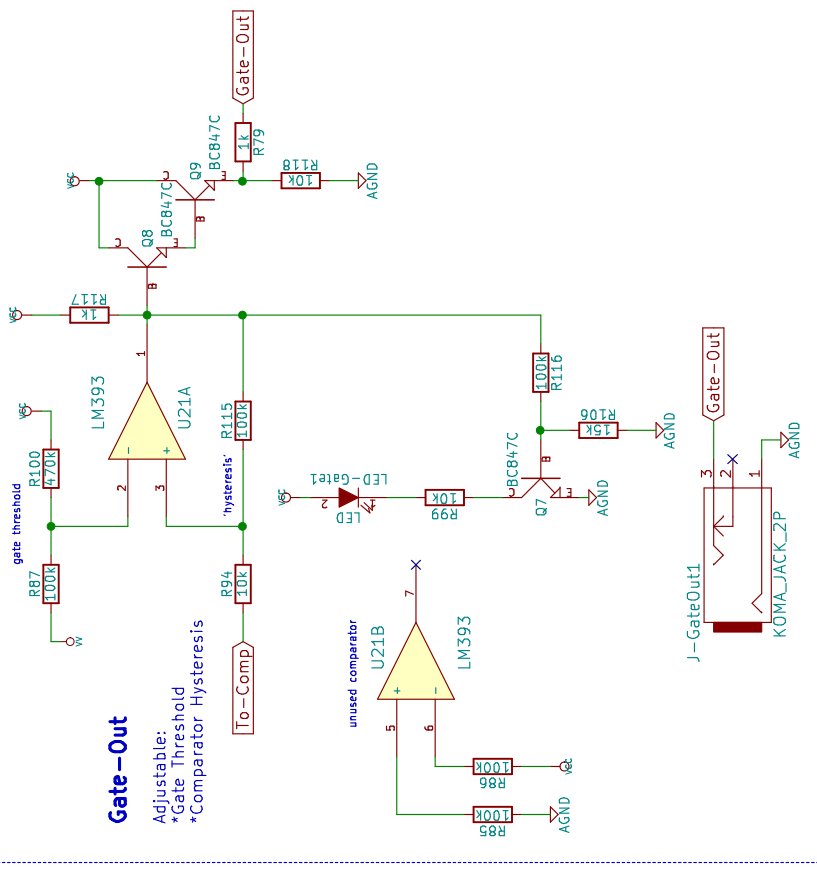
FieldKit CV Processing



Input Buffer

Gate-Out

Adjustable:
*Gate Threshold
*Comparator Hysteresis



Envelope Follower

Adjustable:
*Envelope Gain/Range
*Envelope Speed

Adjust for Envelope Response Speed
($100k + 0.033\mu F \approx 48.223 \text{ Hz} \approx 50 \text{ Hz}$)

Resistors need to be large in order to reach ground

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Sheet: /KomaFieldKit-v5-CVProcessing/
File: KomaFieldKit-v5-CVProcessing.sch

Title: Field Kit PR1 - Envelope Follower

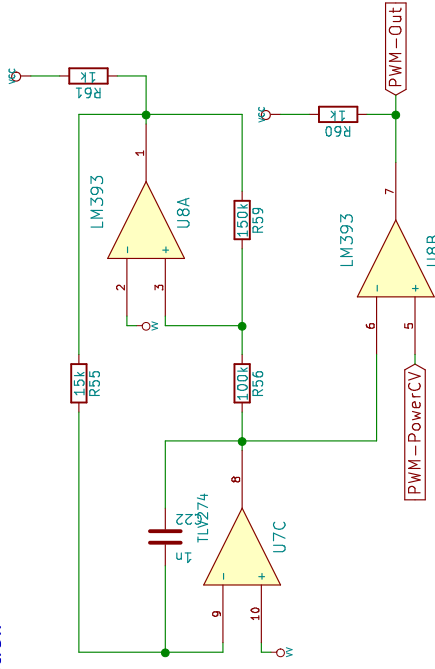
Size: A4 Date: 13 / 07 / 2017

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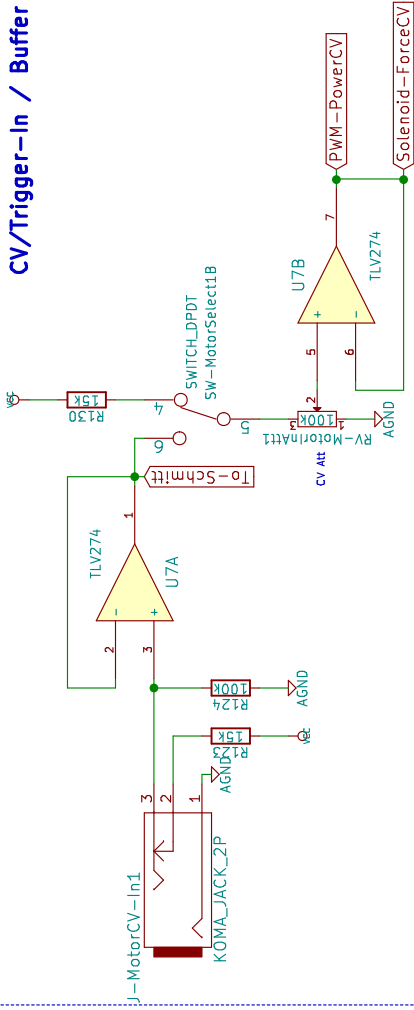
Rev: 1

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PWM Generation

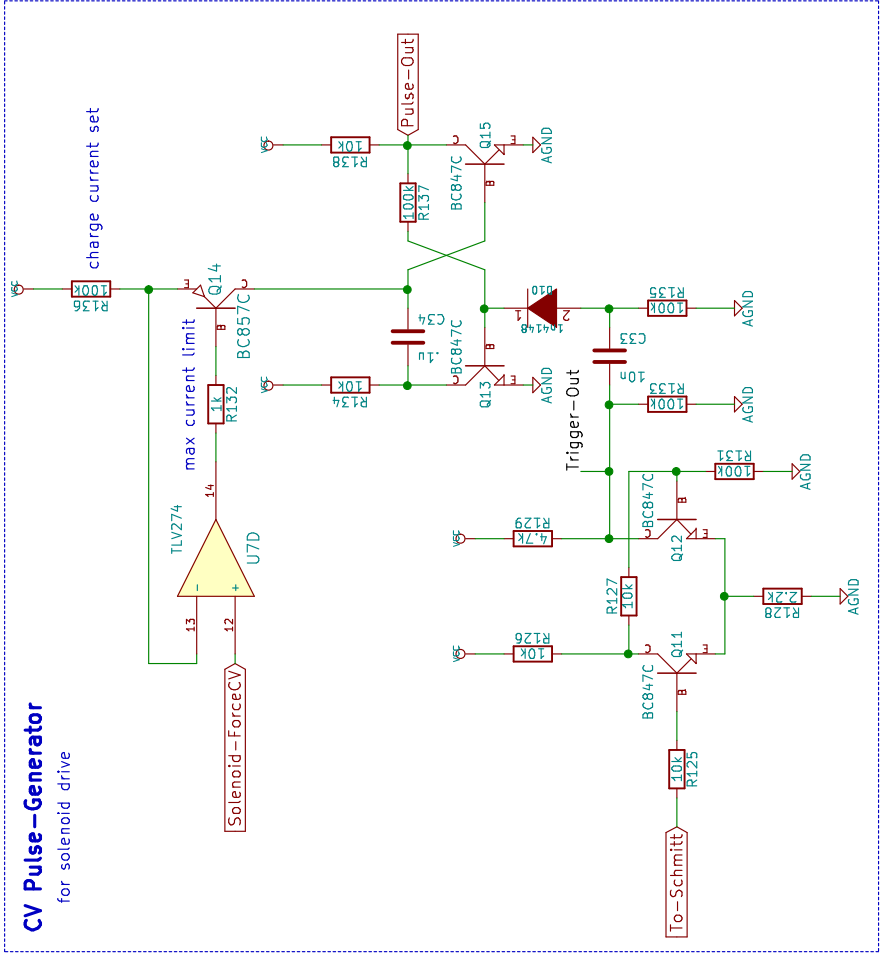


CV/Trigger-In / Buffer

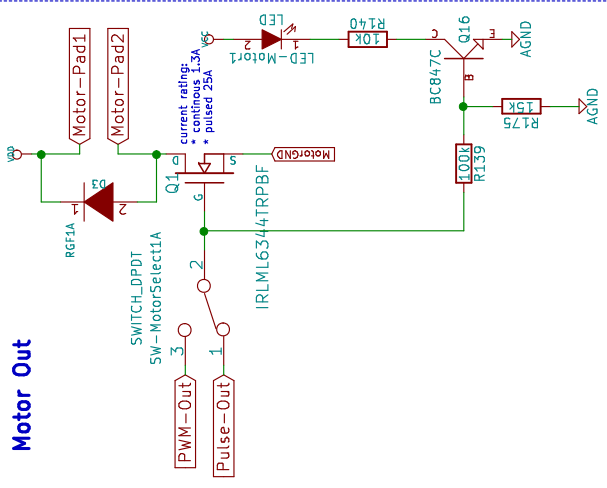


CV Pulse-Generator

for solenoid drive

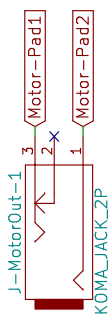


Motor Out



FieldKit
Motor
Control

Adjustable:
* Pulse Length



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Sheet: /KomaFieldKit-v5-MotorControl/
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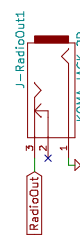
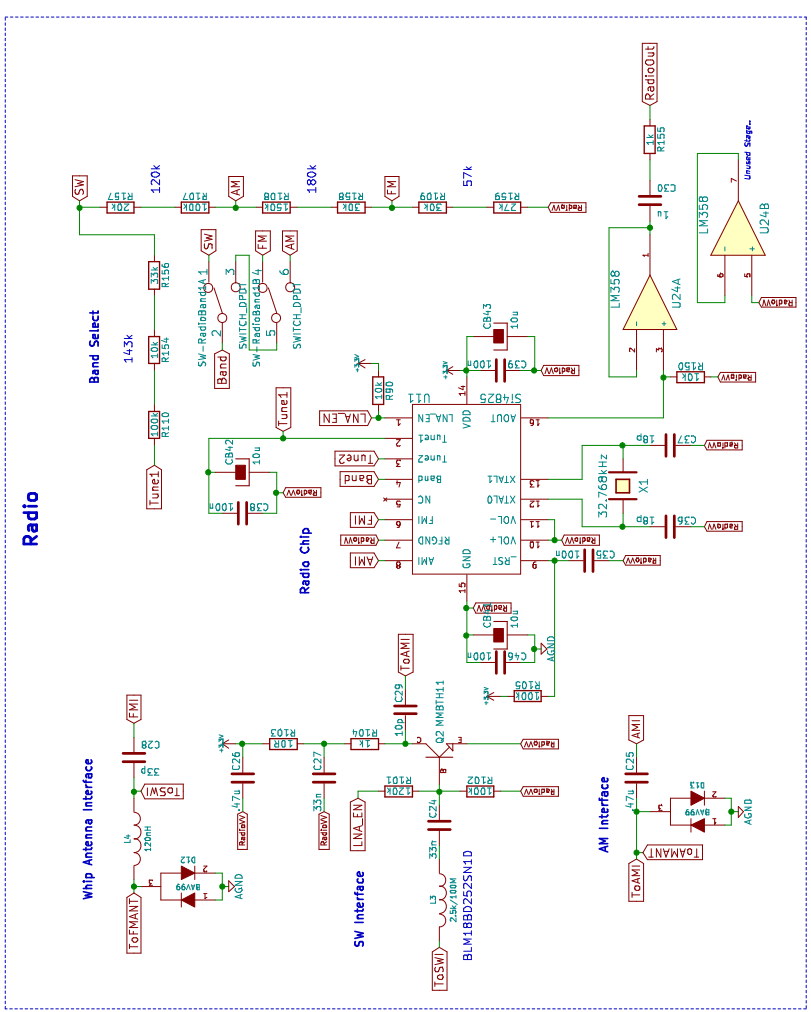
Title: Field Kit PR1 - DC Interface

Size: A4 Date: 13 / 07 / 2017

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Rev. 1

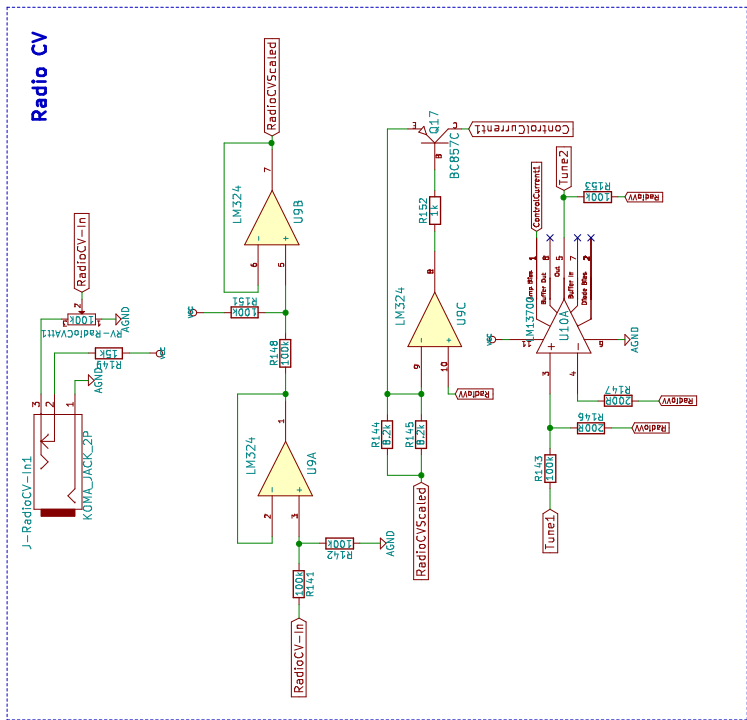
Id: 5/9



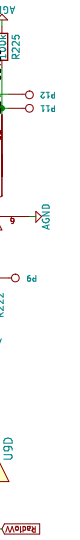
FM Range:
 (VHF Band II)
 87.5Mhz - 108Mhz, De-emphasis 50us
 Chip Band Select: FM2 = 87Mhz - 108Mhz, De-emphasis 50us
 Res to GND = 57k

AM Range:
 (Medium Wave)
 530.5KHz - 1700KHz, 9KHz spacing
 Chip Band Select: AM2 = 532 - 1620KHz, 9KHz separation
 Res to GND = 237kOhm

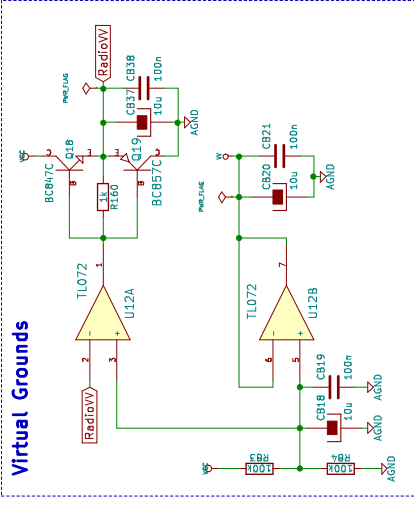
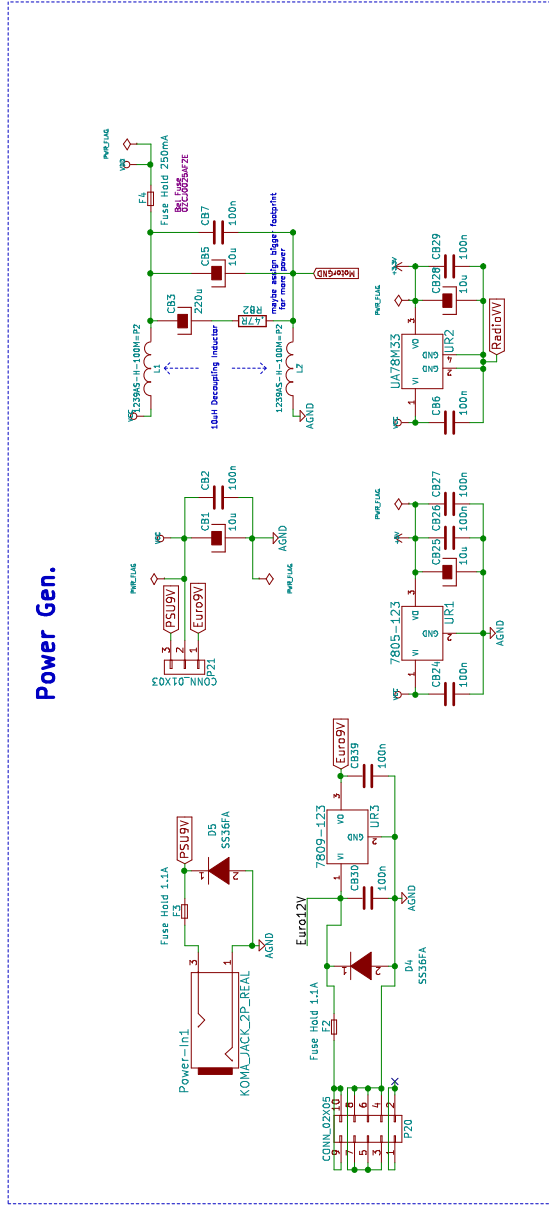
SW Range:
 (Full Range)
 2.3Mhz - 28.5Mhz, SW0 = 5.9 - 18Mhz, Wide
 Chip Band Select: SW0 = 557kOhm
 Res to GND = 357kOhm



Fieldkit
 AM/FM/SW
 Radio



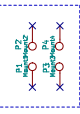
Power Gen.



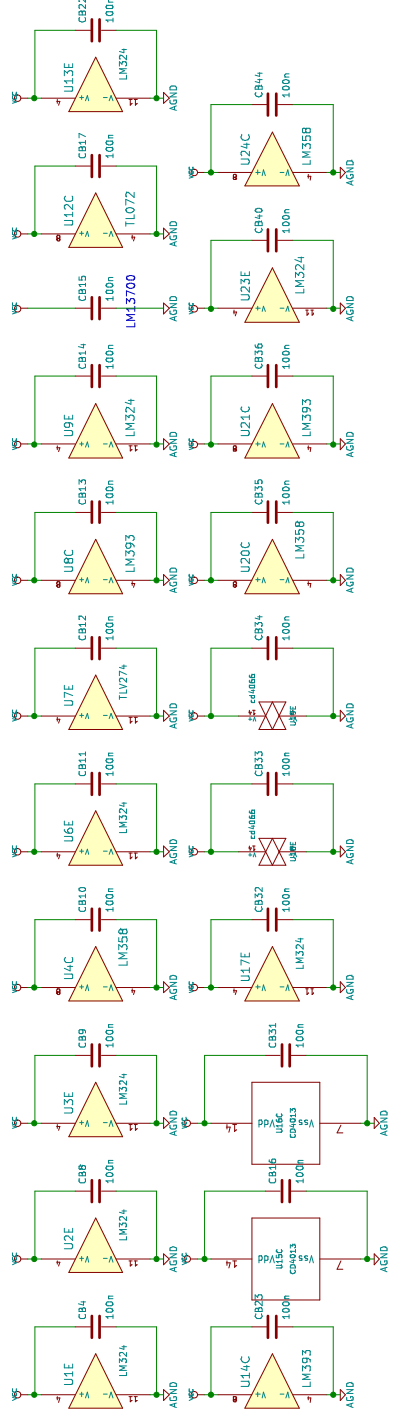
Virtual Grounds

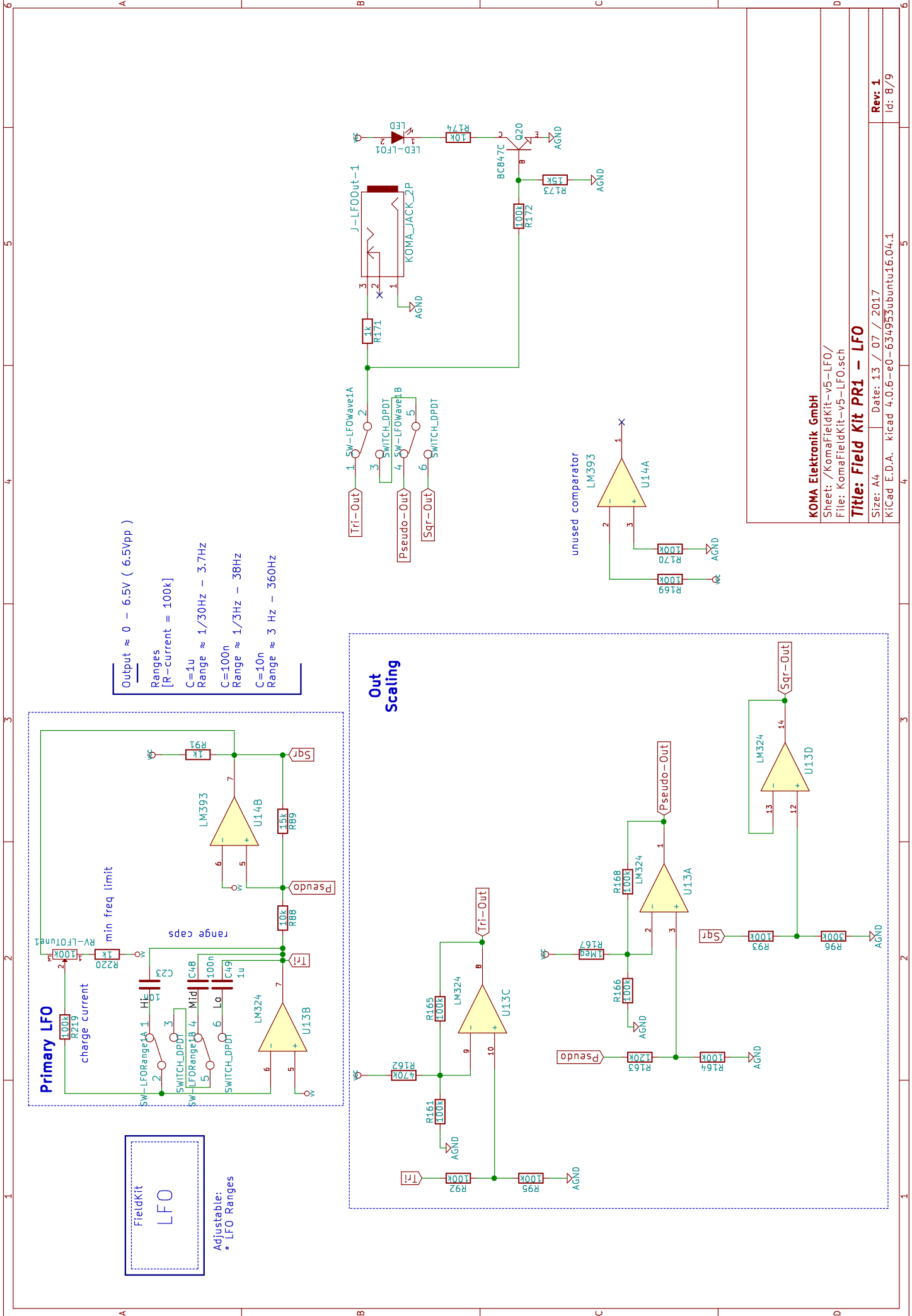
FieldKit
Power

Mounting



IC Powering





Output $\approx 0 - 6.5V$ (6.5Vpp)

Ranges
[R-current = 100k]

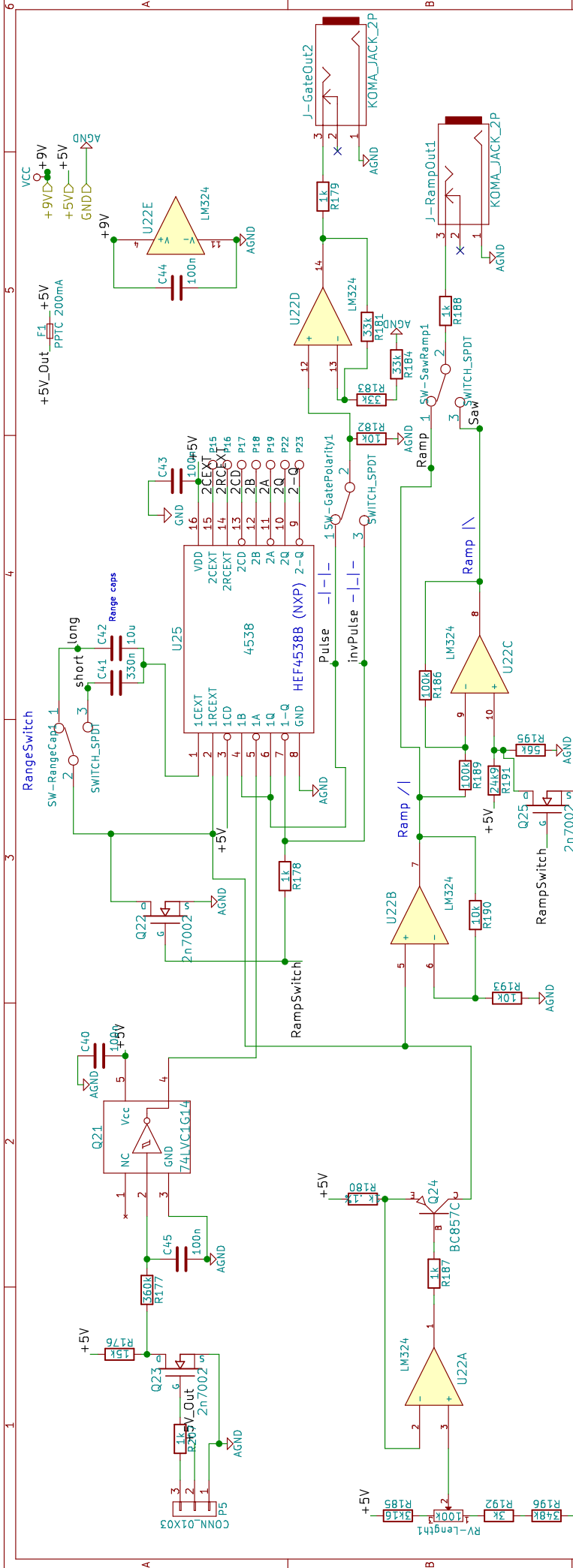
C=1u
Range $\approx 1/30Hz - 3.7Hz$

C=100n
Range $\approx 1/3Hz - 38Hz$

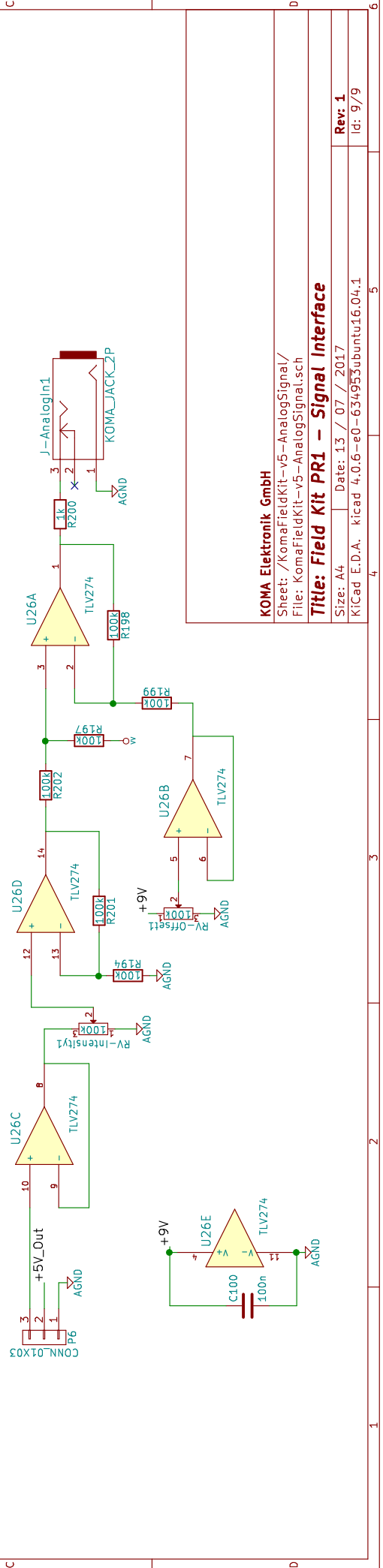
C=10n
Range $\approx 3 Hz - 360Hz$

FieldKit
LFO

Adjustable:
* LFO Ranges



SWITCH SENSOR INTERFACE ANALOG SENSOR INTERFACE



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 Sheet: /KomaFieldKit-v5-AnalogSignal/
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