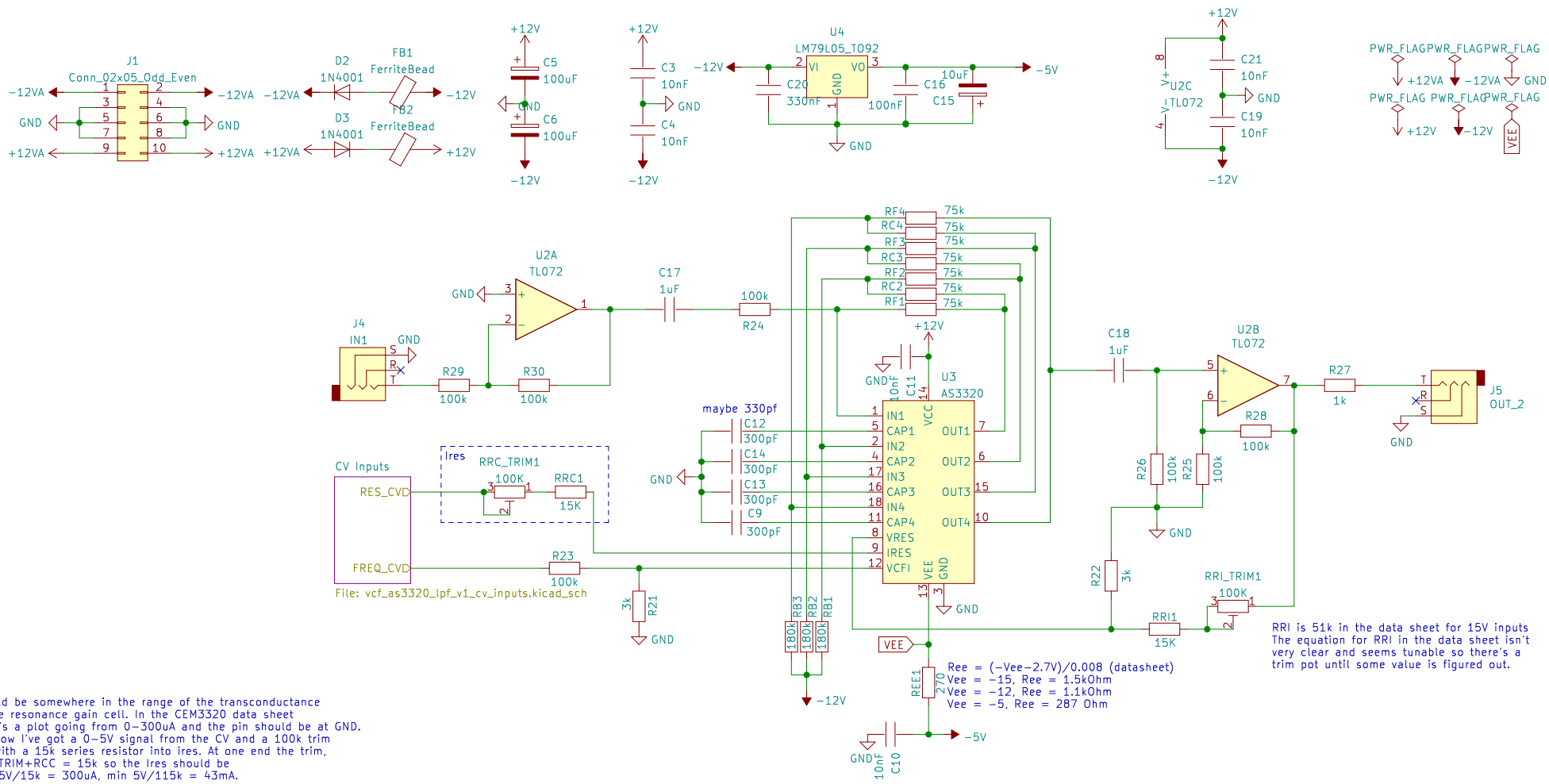

Ires
Should be somewhere in the range of the transconductance
of the resonance gain cell. In the CEM3320 data sheet
there's a plot going from 0−300uA and the pin should be at GND.
For now I've got a 0−5V signal from the CV and a 100k trim
pot with a 15k series resistor into ires. At one end the trim,
RCC_TRIM+RCC = 15k so the Ires should be
max 5V/15k = 300uA, min 5V/115k = 43mA.

VCFI
AS3320 spec says +−6V in one place and −20mV < VCFI < +160mV in another.
CEM3320 spec says to keep it in −25mV < VCFI < +155mV range.
A 100k over 3k divider worked on breadboard with 0−5V input.

RF,RB,RC Values:
Vodc = Vcc*0.46 = 12 * 0.46 = 5.52 (0.46 from data sheet).
Iref = 63uA, Vbias = 0.65V (on datasheet)
Rf = (Vodc−Vbias)/Iref = (5.52−0.65)/0.0000063 = 77kOhm

Rc=Req=(Rf*1MOhm)/(Rf+1MOhm)=71kOhm (see Signal coupling into filter section)

Not 100% sure about this, but the 15V numbers work out...

Iin = Irfb + Irc − Irb	[15V example]	[12V Example]
Irfb = (Vodc−Vbias)/Rf	[(6.9−0.65)/100 =63uA]	[(5.52−0.65)/77k = 63uA]
Irc = (Vodc−Vbias)/Rc	[(6.9−0.65)/91 =70uA]	[(5.52−0.65)/71k = 69uA]
want Irb to cancel Irc	[so Irb = −70uA]	[so Irb = −69uA]
Irb = (Vneg − Vbias)/Rbias		
Rbias = (Vneg − Vbias)/Irb	[(−15−0.65)/−.000070=223kOhm]	[(−12−0.65)/−.000069=180kOhm]

RobotDialogs

Sheet: /
File: vcf_as3320_lpf_v1.kicad_sch

Title: VCF AS3320

Size: A4	Date: 2022−08−06	Rev: 1.0
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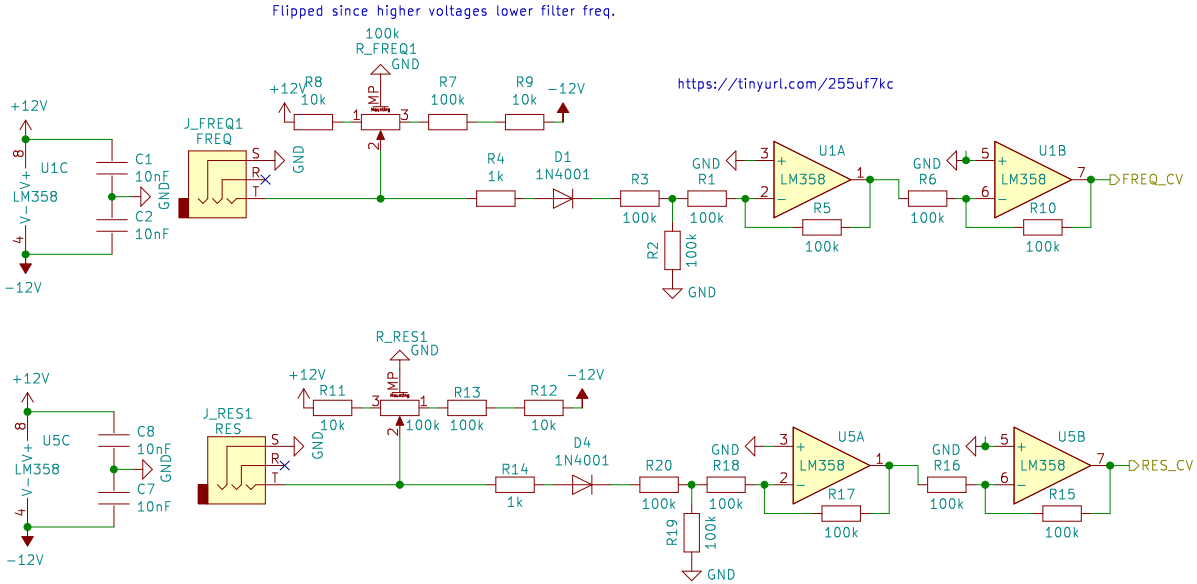

RobotDialogs

Sheet: /CV Inputs/
File: vcf_as3320_lpf_v1_cv_inputs.kicad_sch

Title: VCF AS3320

Size: A4	Date: 2022-08-06	Rev: 1.0
KiCad E.D.A. kicad (6.0.0)		Id: 2/2