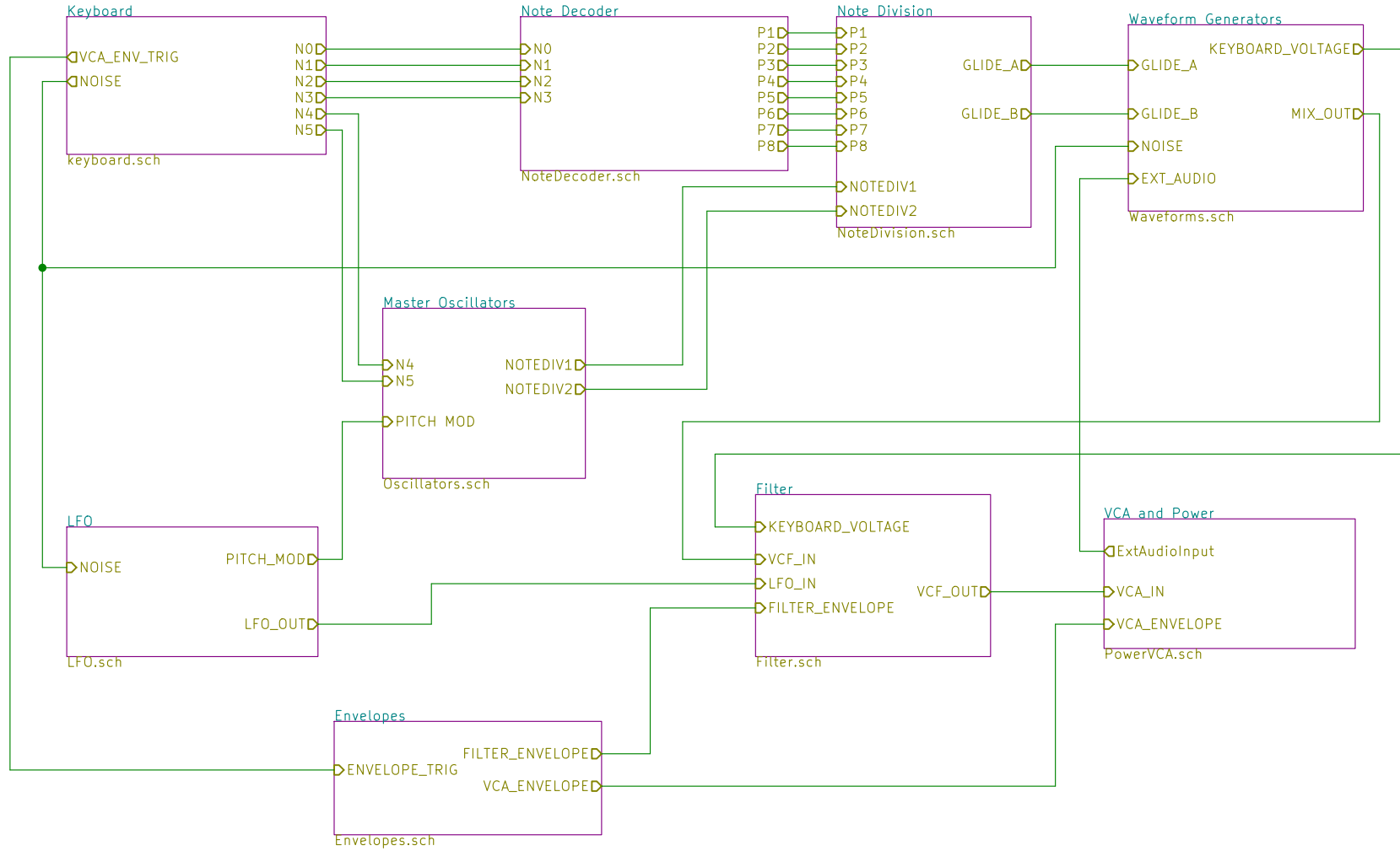


# Jasper 2017

EDP Wasp Synthesiser Clone



Layout and amendments by J Lane  
Based on EDP Wasp of 1978

**J Lane**

Sheet: /  
File: Jasper.sch

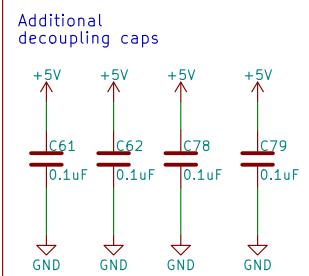
**Title: Jasper Synth 2017**

Size: A4 Date: 2017-09-01

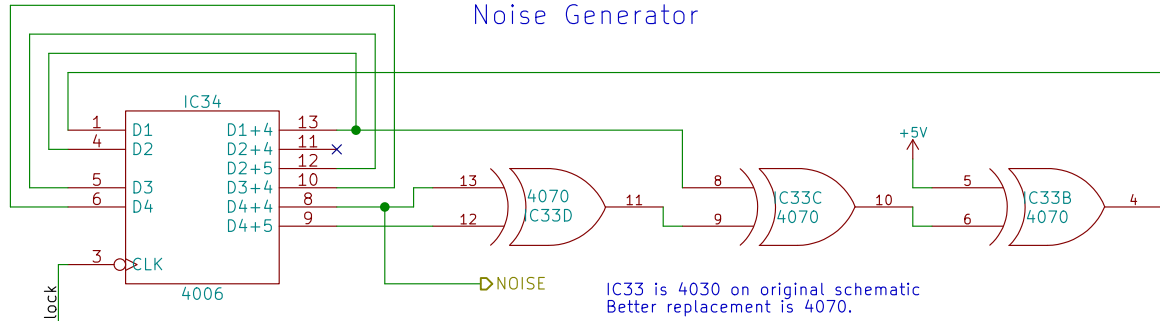
KiCad E.D.A. kicad 4.0.7

**Rev: 4**

Id: 1/10

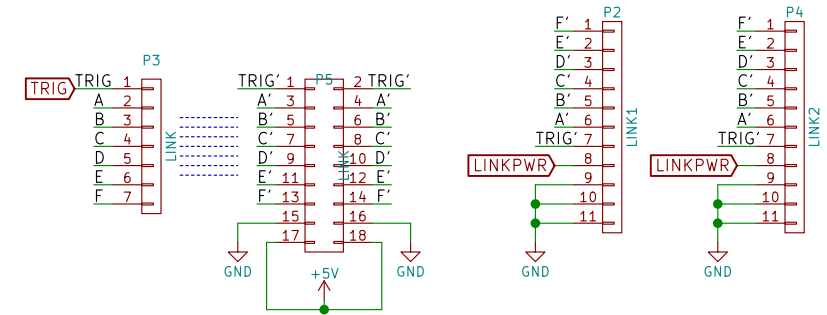


### Noise Generator



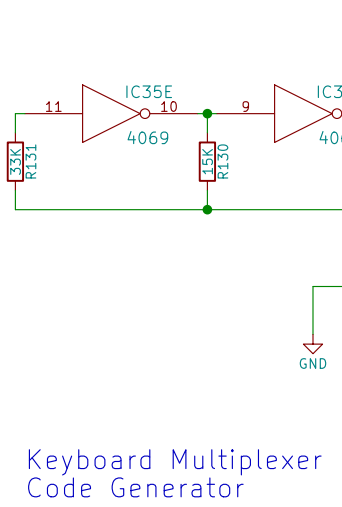
IC33 is 4030 on original schematic  
Better replacement is 4070.

### Link Port Connectors

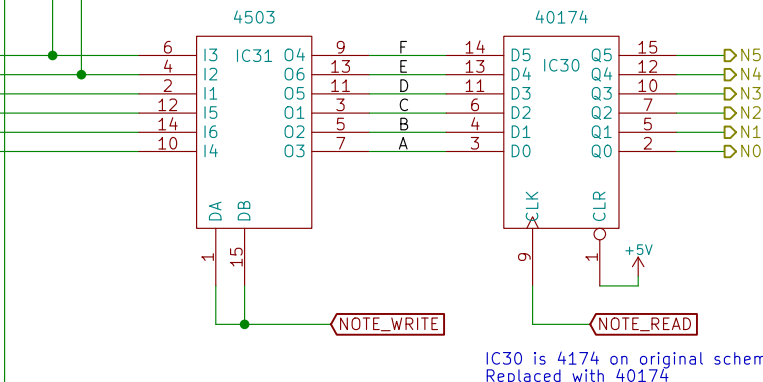


Ribbon cable from centre of board to Link Port connectors on edge of PCB  
Extra GND pin for shielding

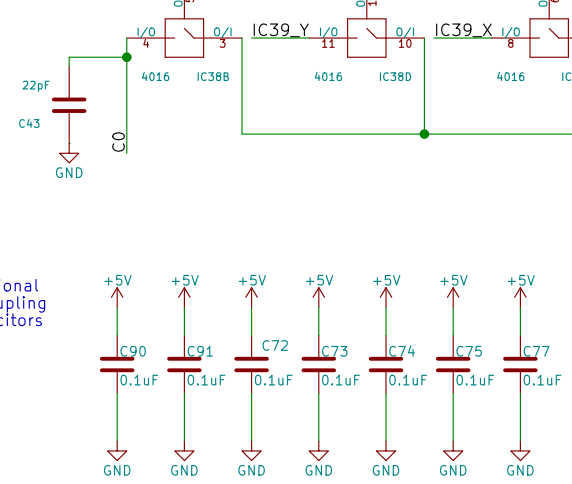
Link Ports are 8pin Mini DIN.  
Additional pin can be used as power supply for other devices.



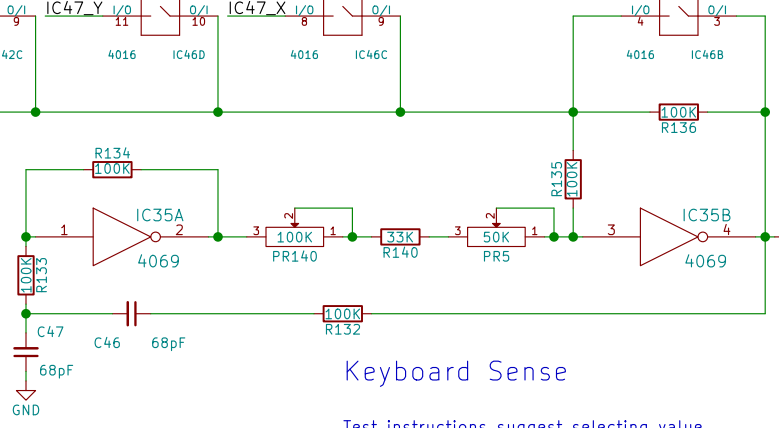
### Tri State Interface



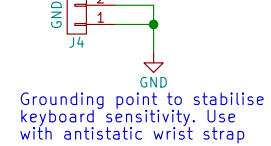
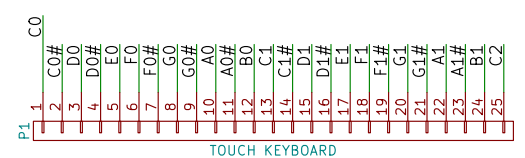
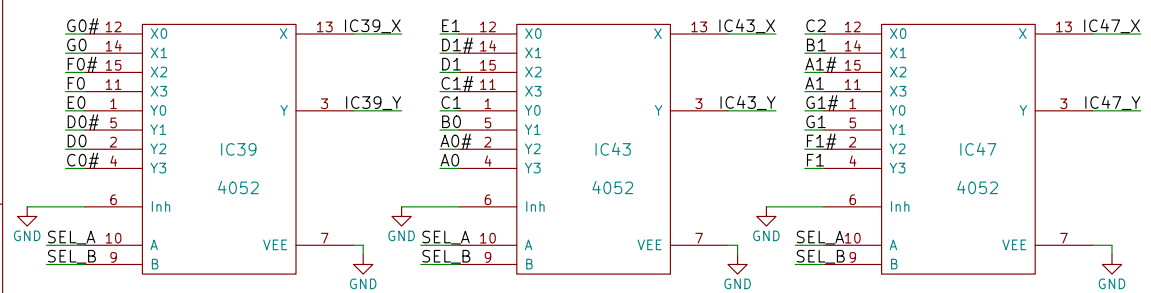
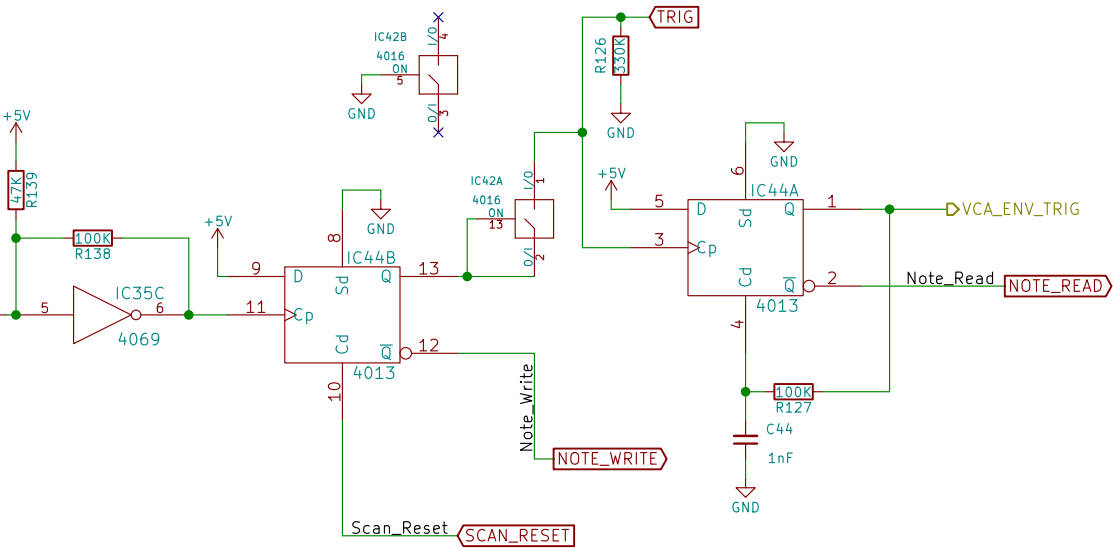
IC30 is 4174 on original schem  
Replaced with 40174



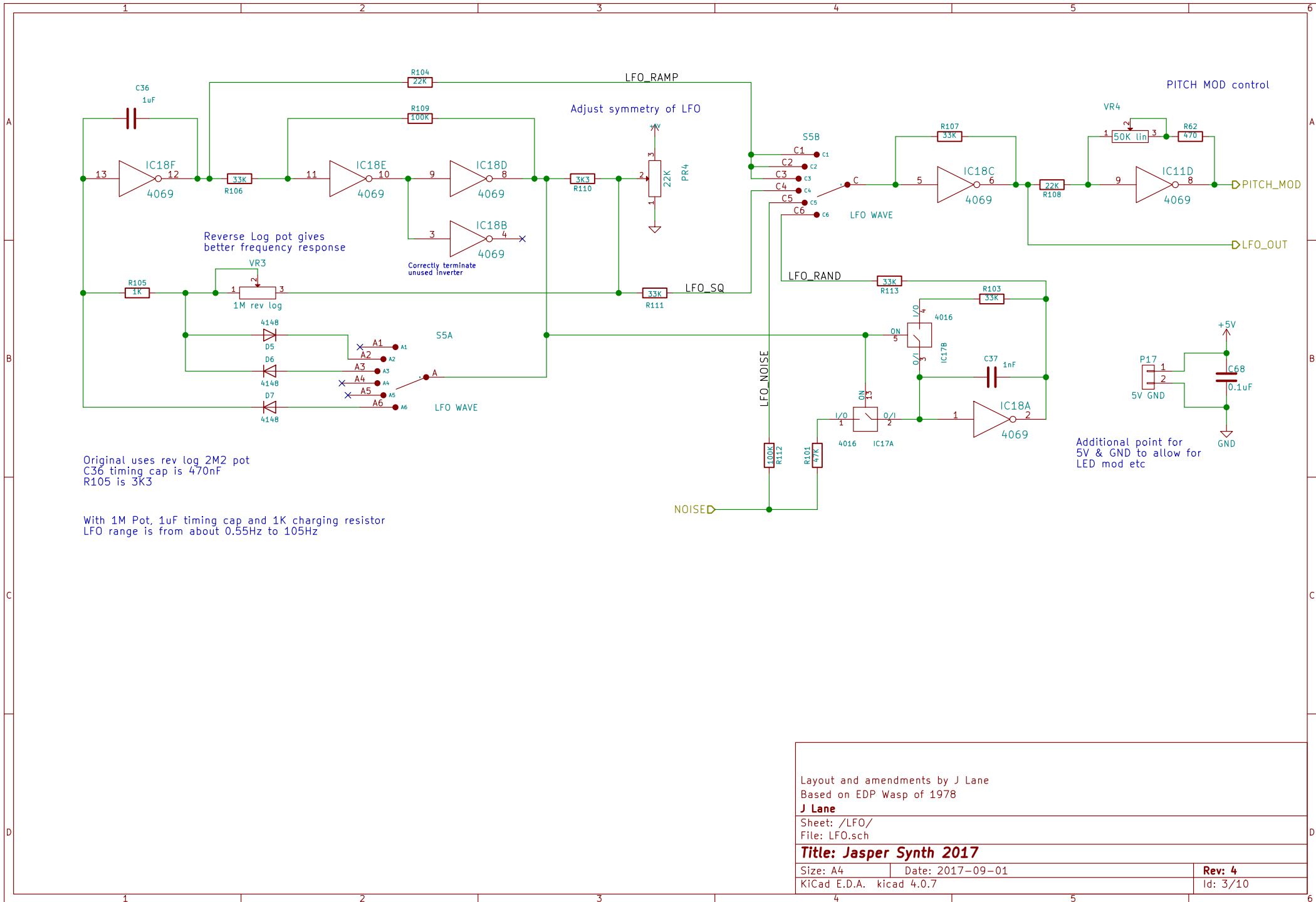
### Keyboard Sense



Test instructions suggest selecting value of R140 when keyboard overlay applied  
Small trimmer PR140 allows for adjustment



Layout and amendments by J Lane Based on EDP Wasp of 1978		
<b>J Lane</b>		
Sheet: /Keyboard/ File: keyboard.sch		
<b>Title: Jasper Synth 2017</b>		
Size: A3	Date: 2017-09-01	Rev: 4
KiCad E.D.A. kicad 4.0.7		Id: 2/10



Layout and amendments by J Lane  
Based on EDP Wasp of 1978

**J Lane**

Sheet: /LFO/

File: LFO.sch

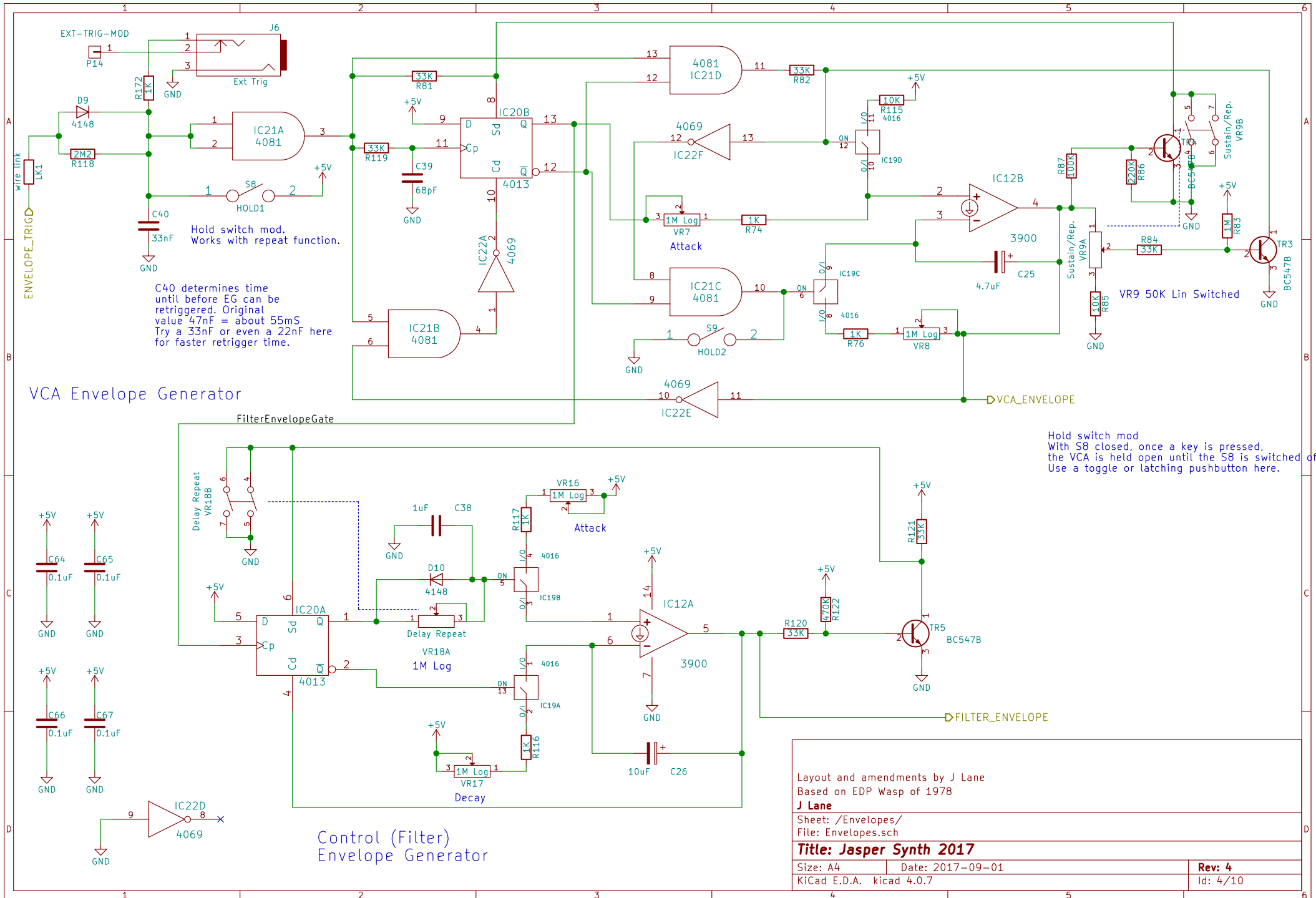
**Title: Jasper Synth 2017**

Size: A4 Date: 2017-09-01

KiCad E.D.A. kicad 4.0.7

Rev: 4

Id: 3/10



Layout and amendments by J Lane  
Based on EDP Wasp of 1978

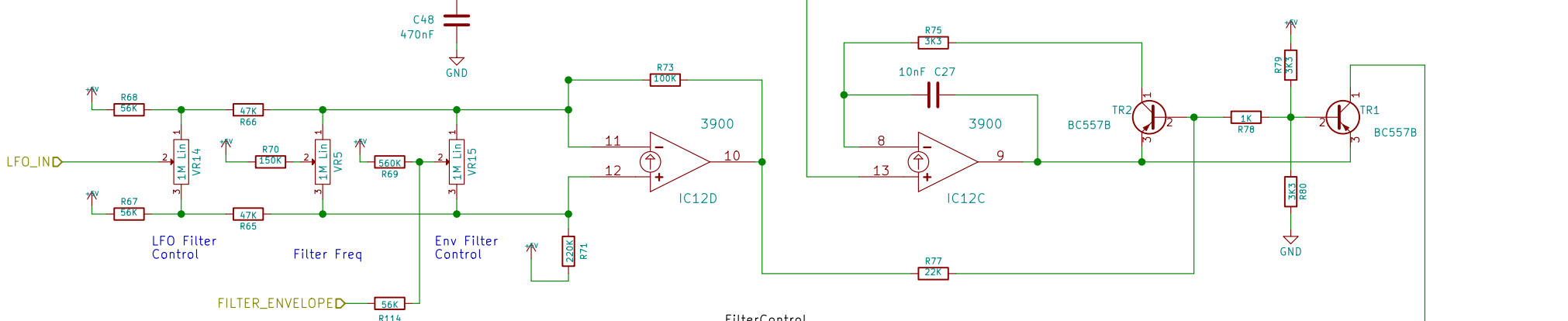
**J Lane**  
Sheet: /Envelopes/  
File: Envelopes.sch

**Title: Jasper Synth 2017**

Size: A4 Date: 2017-09-01  
KiCad E.D.A. kicad 4.0.7

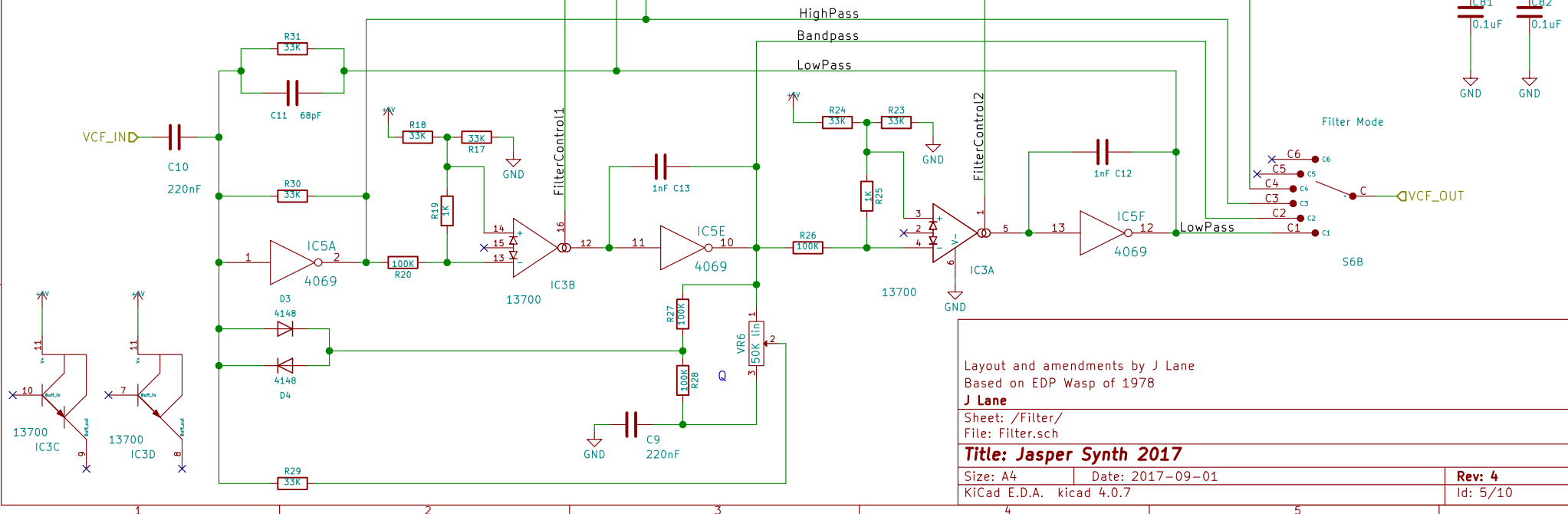
Rev: 4  
Id: 4/10

# Filter Controller

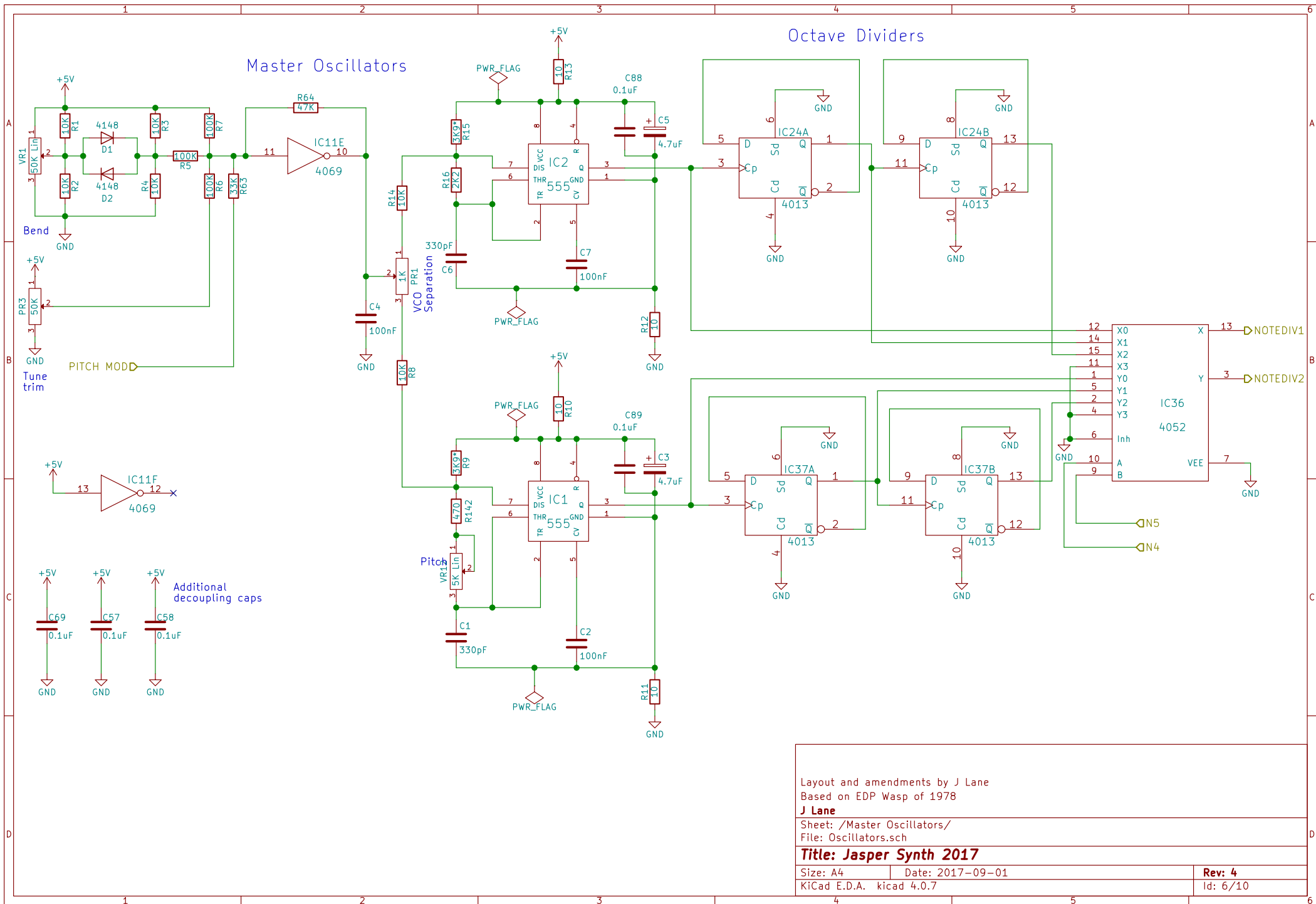


# Filter

Uses LM13700 dual OTA in place of 2x CA3080 in original  
 Added Notch filter (add HP & BP) using a spare section if IC5  
 as per Juergen Haible's Wasp Filter clone



Layout and amendments by J Lane	
Based on EDP Wasp of 1978	
<b>J Lane</b>	
Sheet: /Filter/	
File: Filter.sch	
<b>Title: Jasper Synth 2017</b>	
Size: A4	Date: 2017-09-01
KiCad E.D.A. kicad 4.0.7	Rev: 4
	Id: 5/10



Layout and amendments by J Lane  
Based on EDP Wasp of 1978

**J Lane**

Sheet: /Master Oscillators/  
File: Oscillators.sch

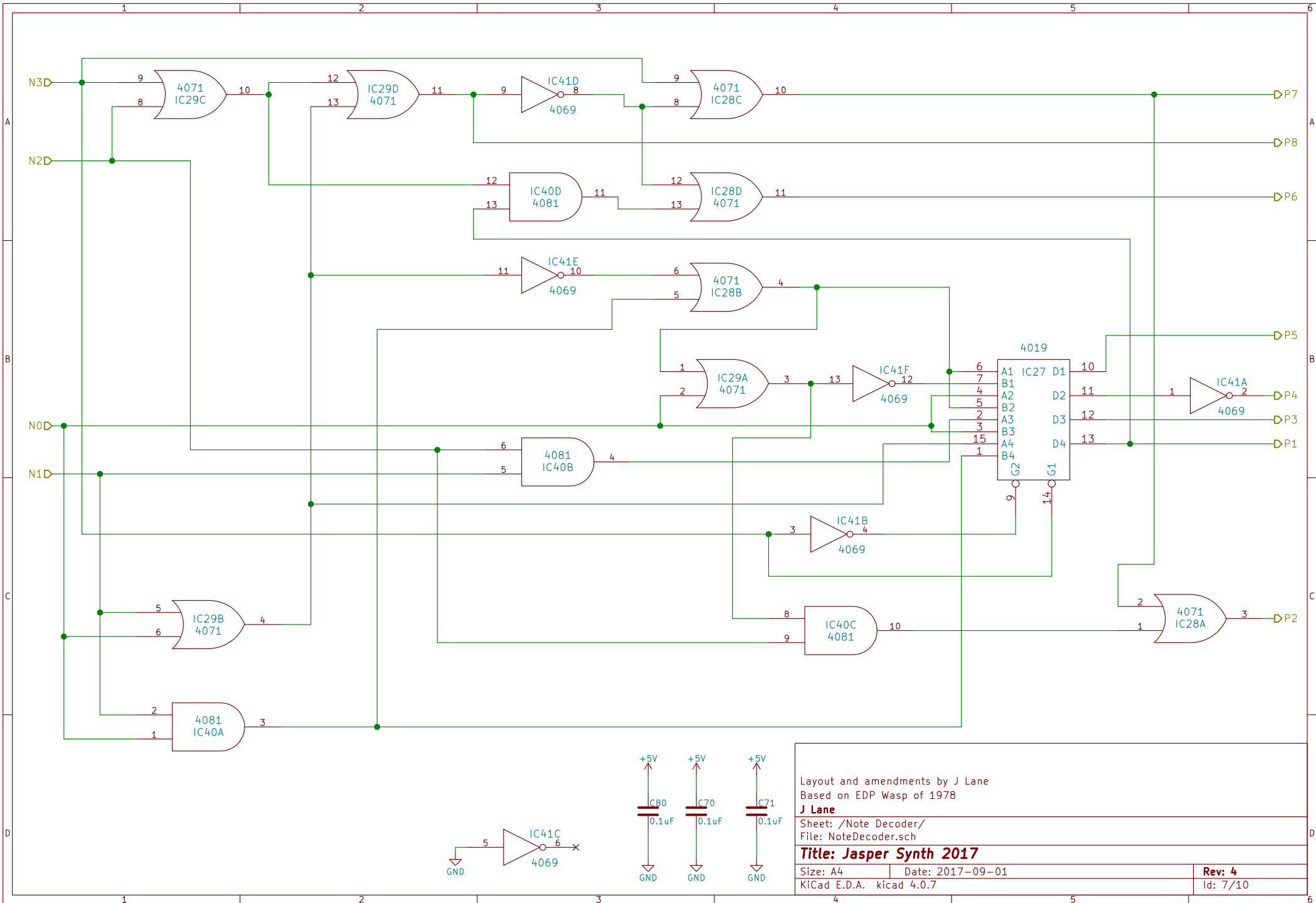
**Title: Jasper Synth 2017**

Size: A4 Date: 2017-09-01

KiCad E.D.A. kicad 4.0.7

**Rev: 4**

Id: 6/10



Layout and amendments by J Lane  
Based on EDP Wasp of 1978

**J Lane**

Sheet: /Note Decoder/  
File: NoteDecoder.sch

**Title: Jasper Synth 2017**

Size: A4 Date: 2017-09-01

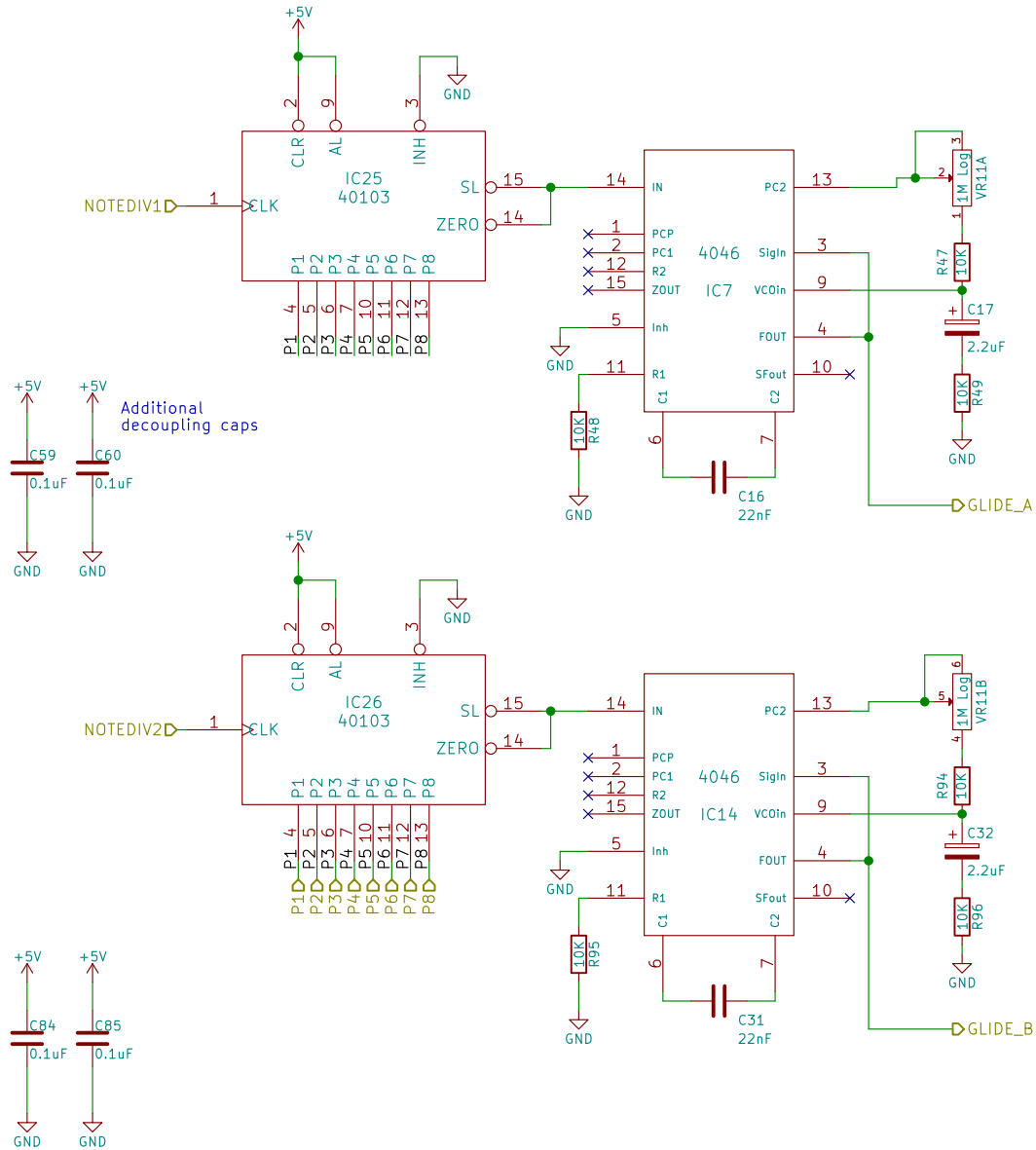
KiCad E.D.A. kicad 4.0.7

Rev: 4

Id: 7/10

Note Dividers

Glide Circuits



Layout and amendments by J Lane  
Based on EDP Wasp of 1978

**J Lane**

Sheet: /Note Division/  
File: NoteDivision.sch

**Title: Jasper Synth 2017**

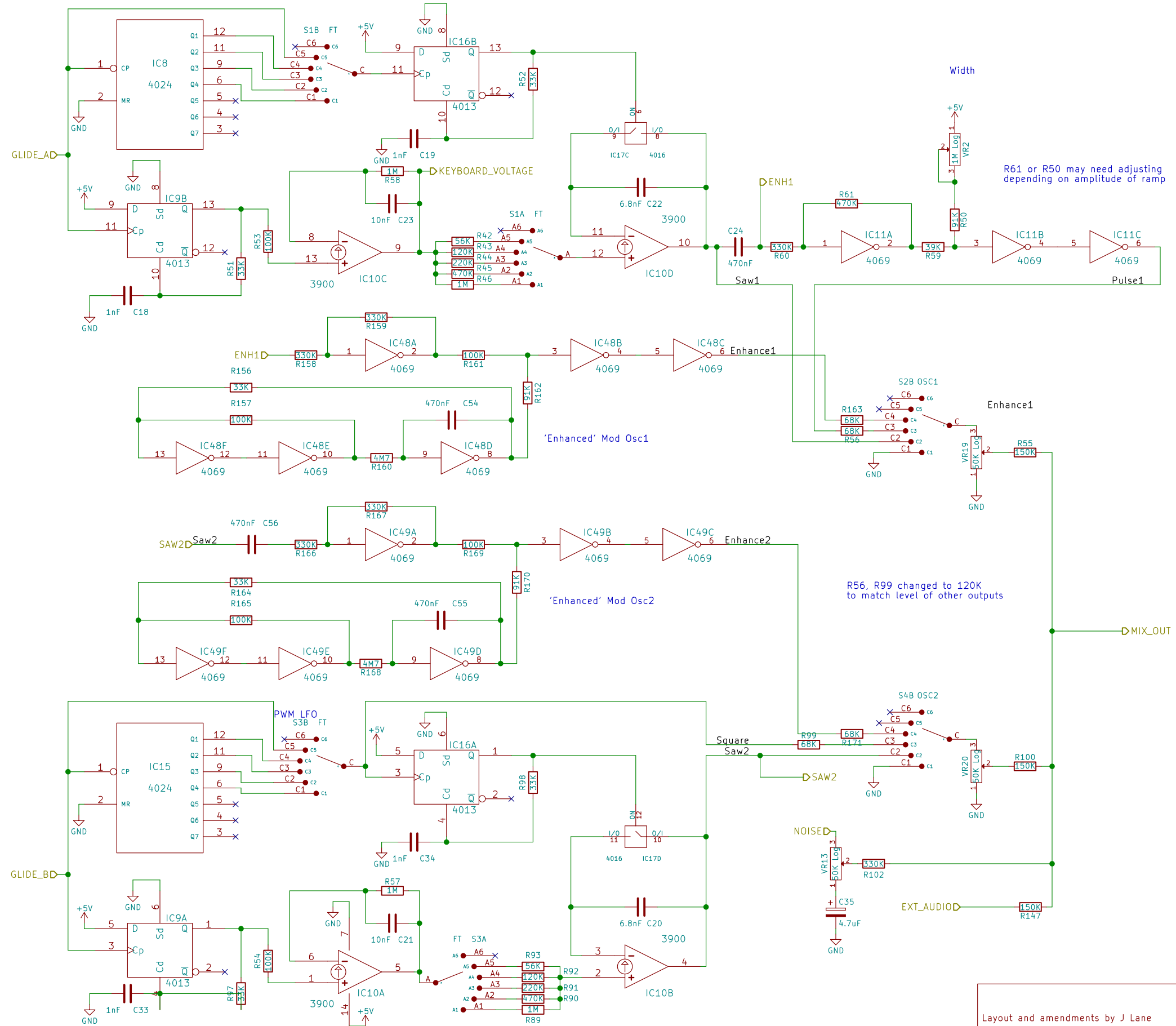
Size: A4 Date: 2017-09-01

KiCad E.D.A. kicad 4.0.7

Rev: 4

Id: 8/10





Width  
+5V  
VR2  
R50  
R61  
R59  
IC11A  
IC11B  
IC11C  
Pulse1

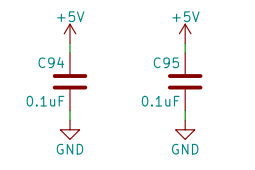
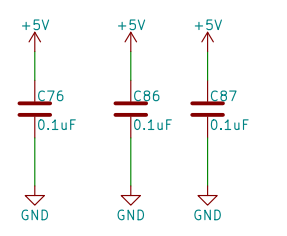
R61 or R50 may need adjusting depending on amplitude of ramp

'Enhanced' Mod Osc1

'Enhanced' Mod Osc2

R56, R99 changed to 120K to match level of other outputs

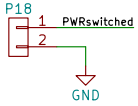
PWM LFO



Layout and amendments by J Lane Based on EDP Wasp of 1978 <b>J Lane</b>		
Sheet: /Waveform Generators/ File: Waveforms.sch		
<b>Title: Jasper Synth 2017</b>		
Size: A3	Date: 2017-09-01	Rev: 4
KiCad E.D.A. kicad 4.0.7		Id: 9/10

## Power Input and Regulator

Switched power header  
Allows unregulated supply to power  
mods needing 9-12V



Battery negative is  
disconnected when  
DC jack inserted

If using PCB battery holders  
Jumper the two connectors  
P15 & P16

Optional power over  
8pin Link connector

A few extra decoupling caps

## VCA

Extra resistor to  
bias VCA Envelope CV higher.  
Improves repeat and sustain.  
If VCA doesn't close fully,  
increase this resistor or  
leave out completely.

VCA\_ENVELOPED

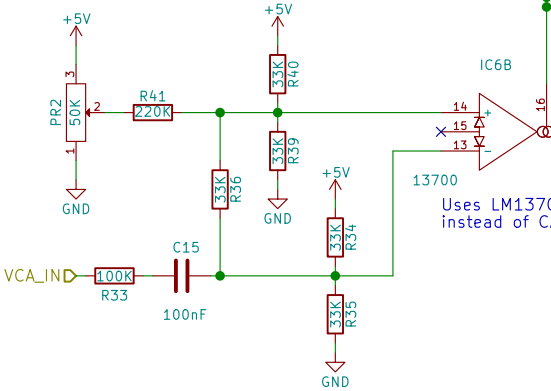
Uses Omeg Eco16 pots  
with DPST switch

50K Log VR10A

## LINE OUT

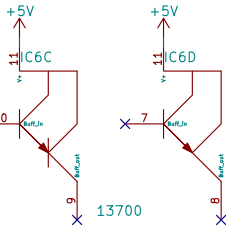
Mix to allow stereo out

## POWER AMP

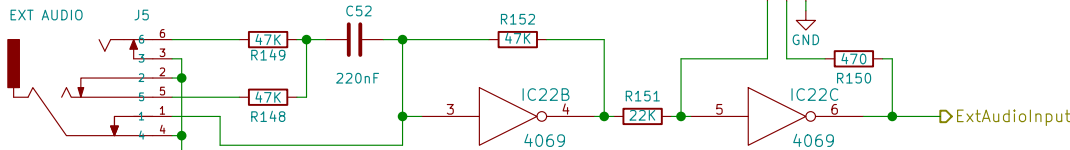


Uses LM13700  
instead of CA3080

Properly terminate unused half of 13700



## External Audio Input



Spare inverters on IC22 to mix a stereo input  
and provide buffer and variable gain.  
If jack not plugged, ext audio input is grounded  
by switches on Cliff socket.

Twin shielded cable to VR21  
Only connect signal wires  
to 100K log pot

Layout and amendments by J Lane  
Based on EDP Wasp of 1978

**J Lane**

Sheet: /VCA and Power/  
File: PowerVCA.sch

**Title: Jasper Synth 2017**

Size: A4 Date: 2017-09-01

KiCad E.D.A. kicad 4.0.7

Rev: 4

Id: 10/10

## M3 PCB mounting holes

