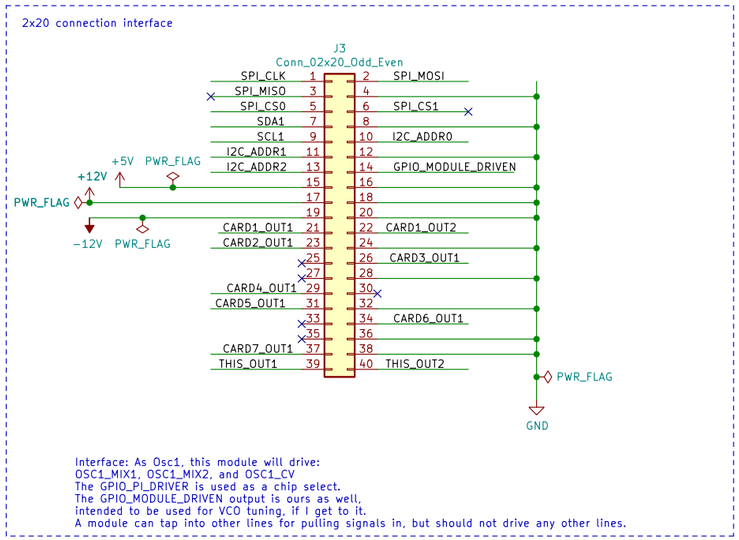
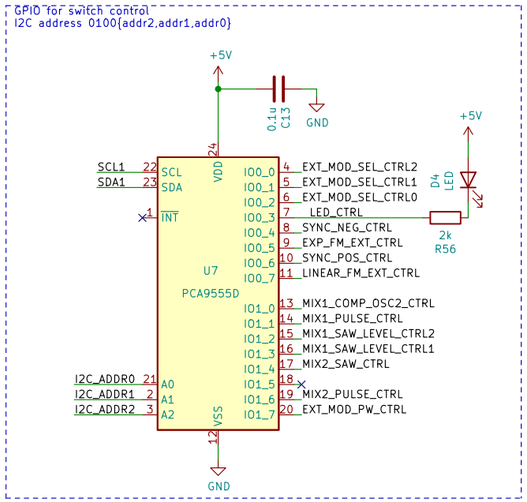
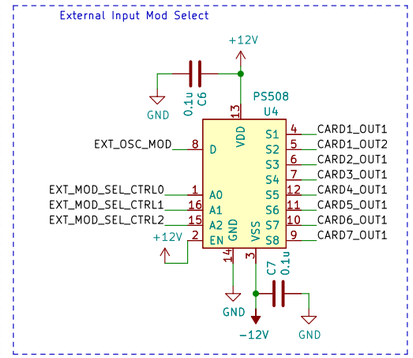
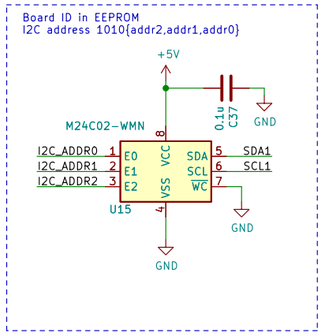
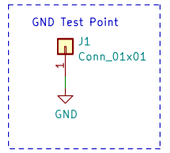
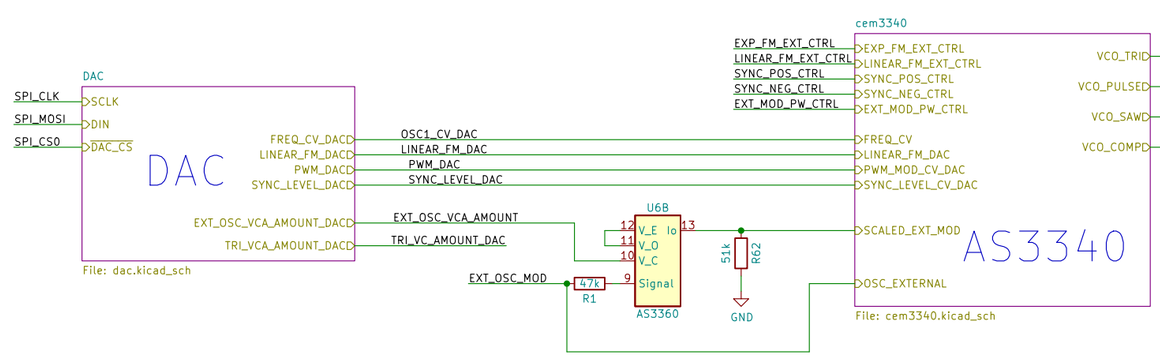


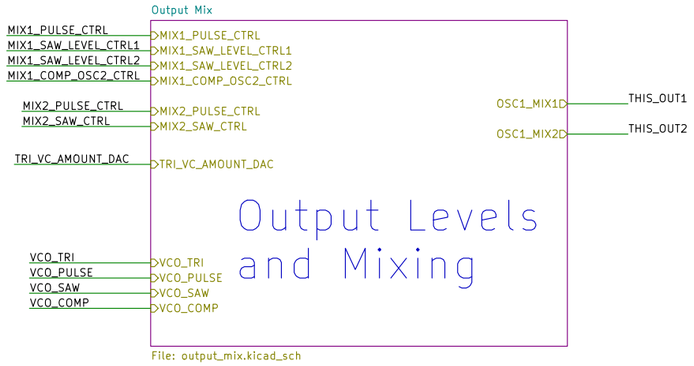


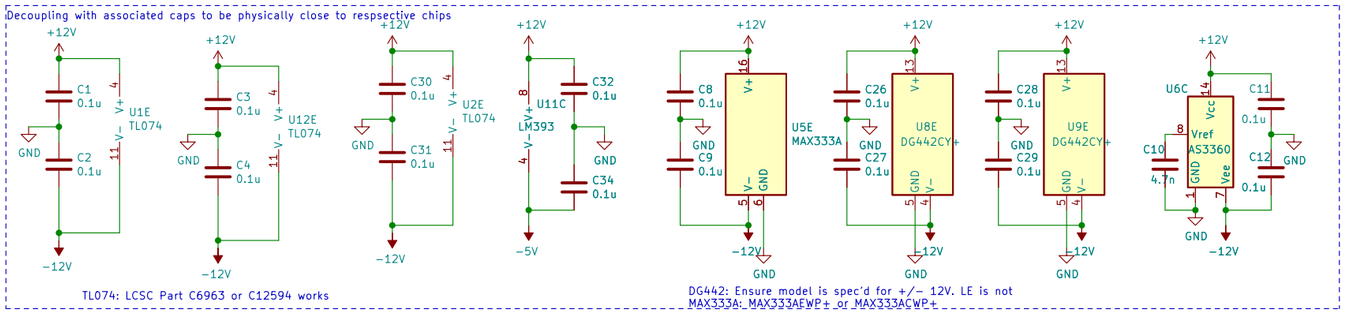


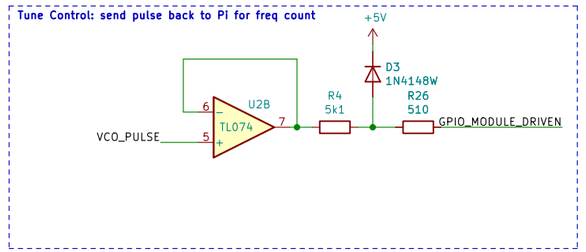


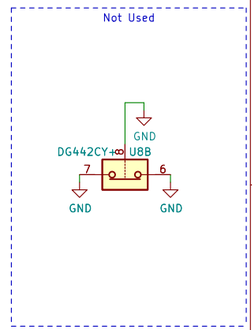


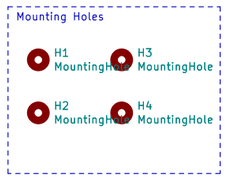












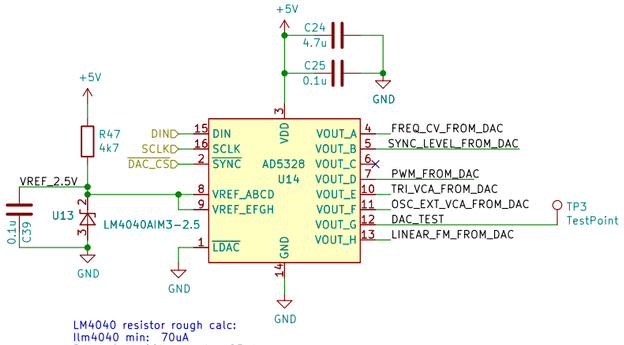
Zoxnoxious Engineering

Sheet: /
File: as3340.kicad_sch

Title: Zoxnoxious 3340 Oscillator

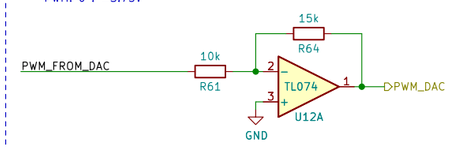
Size: B	Date: 2022-09-07	Rev: 0.4
KiCad E.D.A. kicad (6.0.7-1)-1		Id: 1/4

DAC: 2.5V Reference Voltage
B, C, D grades of LM4040 are likely acceptable

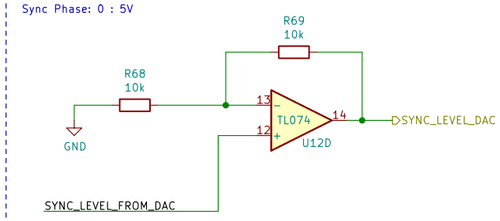


LM4040 resistor rough calc:
lm4040 min: 70uA
Rdacref = 100k ==> I = 25uA
opamp will swing about 0 50 uA
for roughly 150uA ==> 16kR min
Lower to 5k, call it good

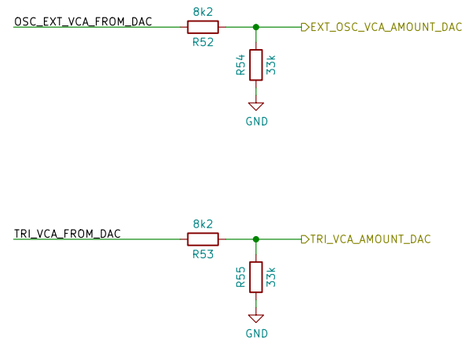
PWM: 0 : -3.75V

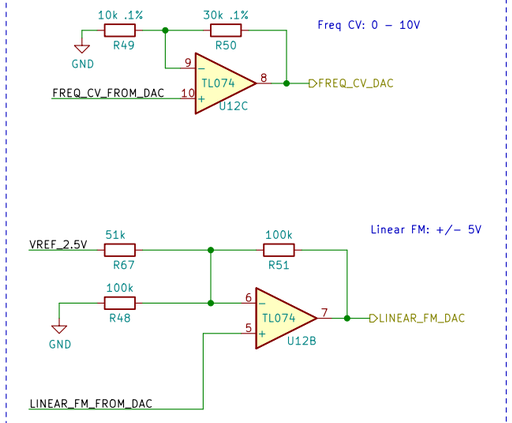


Sync Phase: 0 : 5V



Scaling for VCA of 0-2V

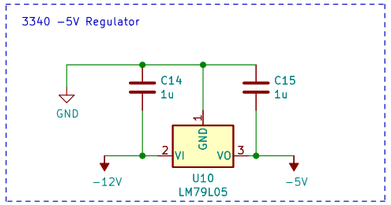


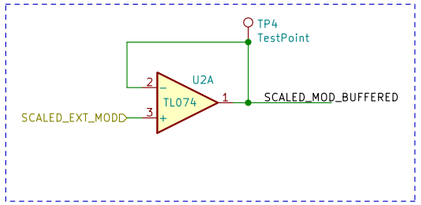


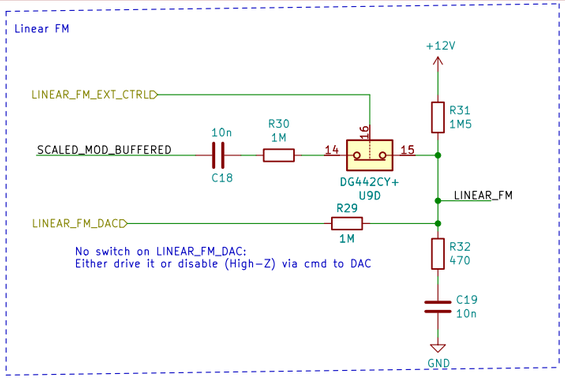
DAC Output Levels:

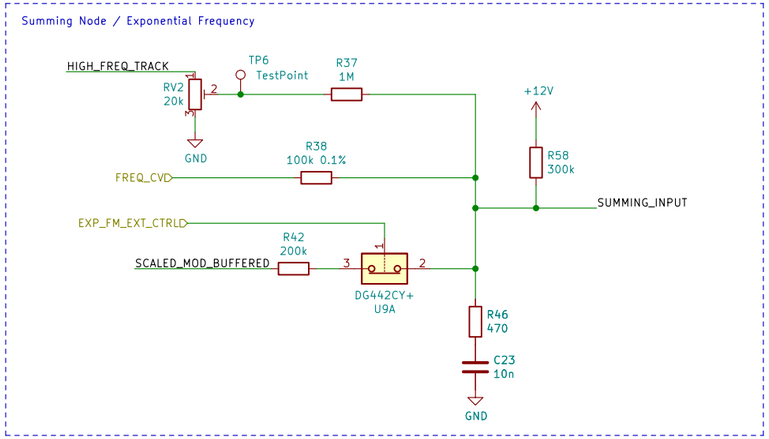
FREQ_CV_DAC: 0 : 10V
LINEAR_FM_DAC: +/- 5V
EXT_OSC_VCA_AMOUNT: 0 : 2V
PULSE_VCA_AMOUNT_DAC: 0 : 2V
PWM_DAC: 0 : -3.75V (inverted to positive downstream)
SYNC_LEVEL_DAC: 0 : 10V (sync phase)

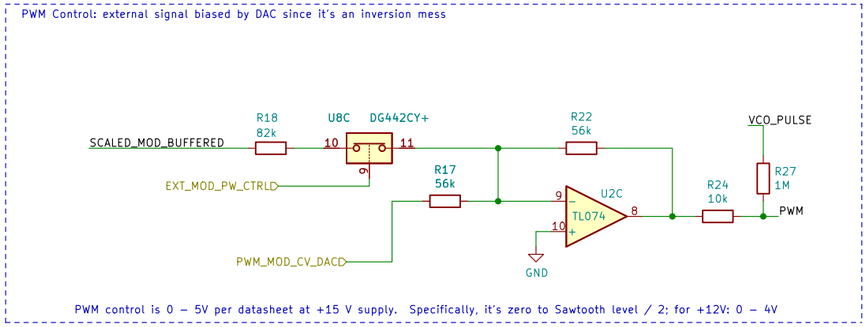
Zoxnoxious Engineering		
Sheet: /DAC/		
File: dac.kicad_sch		
Title: Zoxnoxious 3340 Oscillator		
Size: B	Date:	**Rev: 0.4**
KiCad E.D.A. kicad (6.0.7-1)-1		Id: 2/4

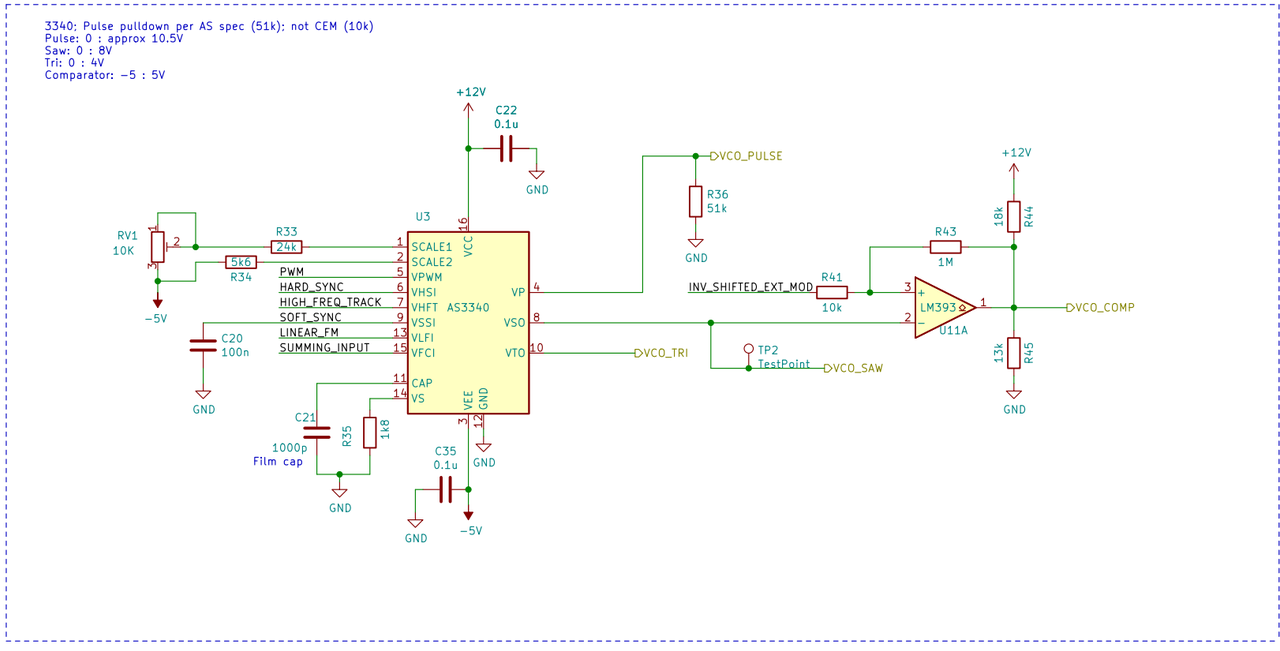


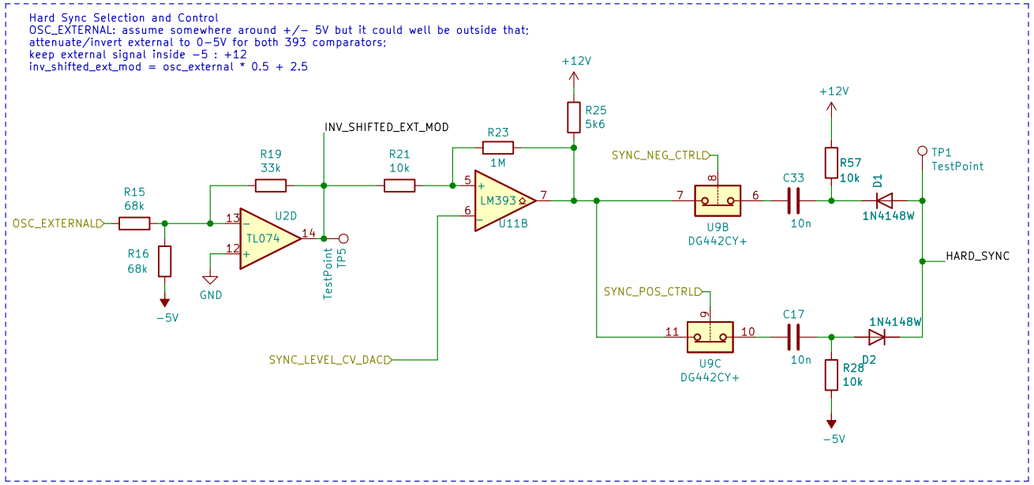






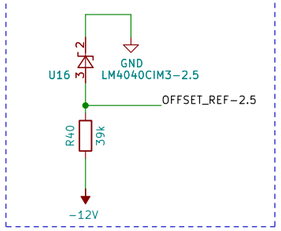






Zoxnoxious Engineering	
Sheet: /cem3340/	
File: cem3340.kicad_sch	
Title: Zoxnoxious 3340 Oscillator	
Size: B	Date:
KiCad E.D.A. kicad (6.0.7−1)−1	Id: 3/4
	Rev: 0.4

Any grade of LM4040 is fine–
just provide something more stable than
the rails for an offset voltage

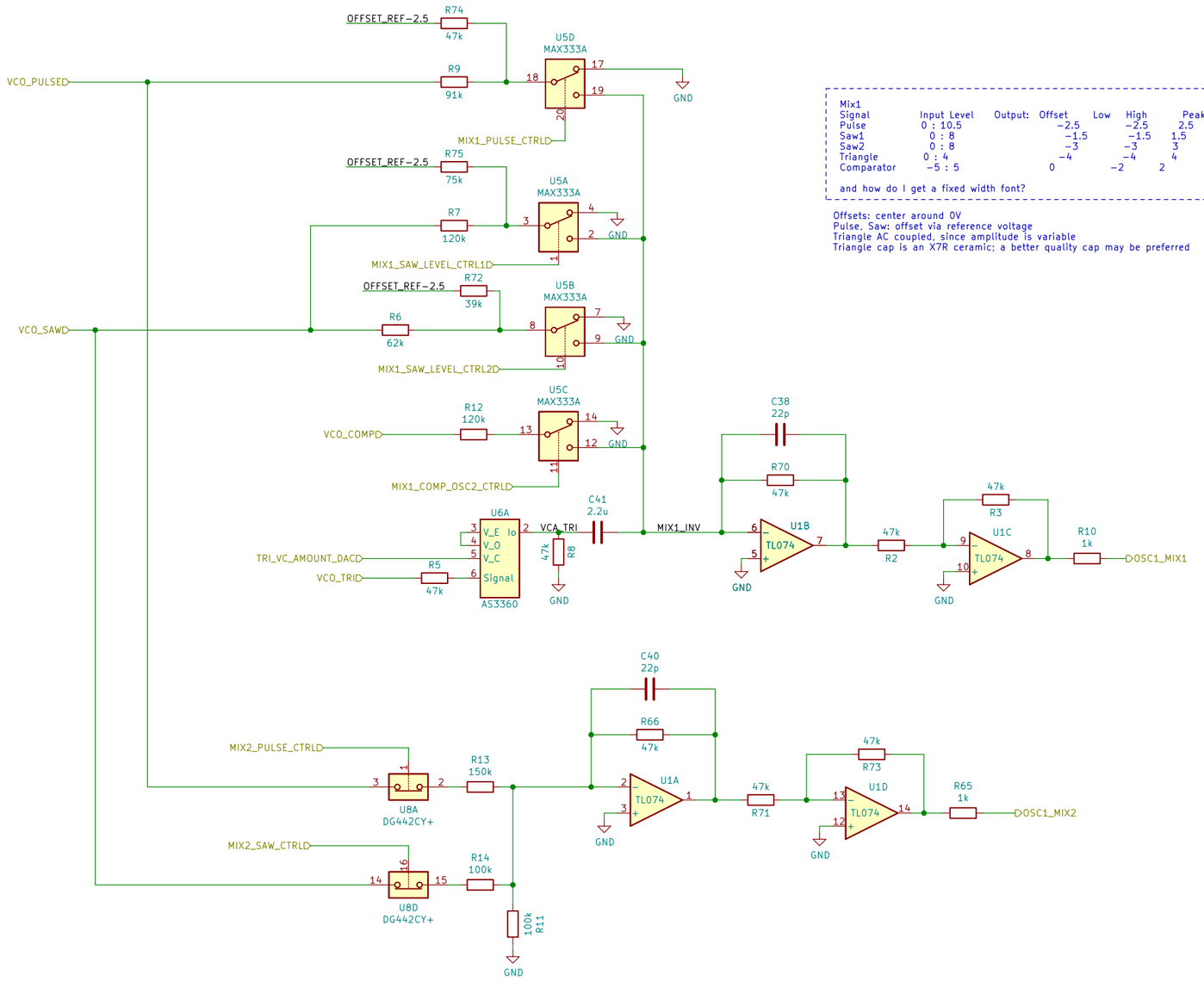


–16k in load to OFFSET_REF–2.5 ==> 150 uA
LM4040 requires 65 uA
total 215 uA
44k calculated ==> 39k resistor, allowing for power supply wierdness
Changing offsets to waveforms will change this value

Mix1						
Signal	Input Level	Output:	Offset	Low	High	Peak–to–Peak
Pulse	0 : 10.5		–2.5	–2.5	2.5	5
Saw1	0 : 8		–1.5	–1.5	1.5	3
Saw2	0 : 8		–3	–3	3	6
Triangle	0 : 4		–4	–4	4	8
Comparator	–5 : 5		0	–2	2	4

and how do I get a fixed width font?

Offsets: center around 0V
Pulse, Saw: offset via reference voltage
Triangle AC coupled, since amplitude is variable
Triangle cap is an X7R ceramic; a better quality cap may be preferred



Zoxnoxious Engineering

Sheet: /Output Mix/
File: output_mix.kicad_sch

Title: Zoxnoxious 3340 Oscillator

Size: B	Date:	**Rev: 0.4**
KiCad E.D.A. kicad (6.0.7–1)–1		Id: 4/4