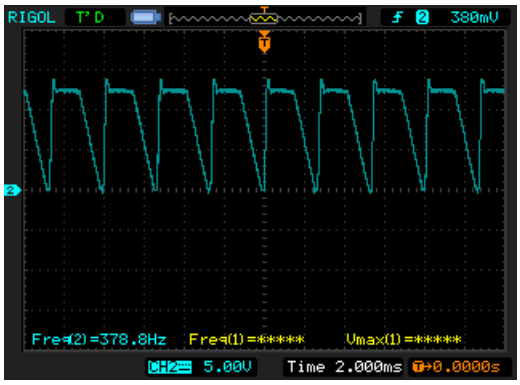
by **rf** » 28 Jul 2013 09:43

TRIMMING

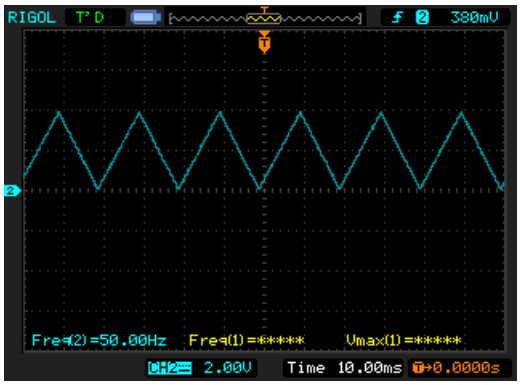
1) set pulser slider to .002s, trim RLSR:RANGE to 2-3ms per cycle, it should make 10sec per cycle in the opposite position of the slider (monitor on a yellow banana jack)



208-tr1.gif (5.79 KiB) Viewed 147 times

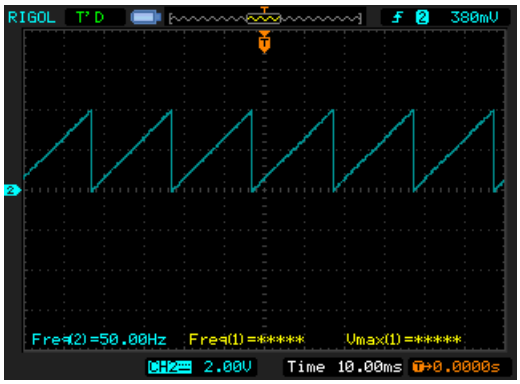
2) set mod oscillator freq slider to 50Hz, fine tune to maximum

3) trim MO:TRIANGLE to 0-4V waveform (monitor on MO:TRIANGLE pin)



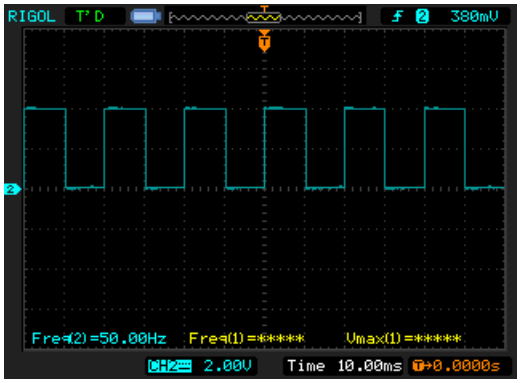
208-tr2.gif (5.13 KiB) Viewed 147 times

4) trim MO:SAW to 0-4V waveform (monitor on MO:TRIANGLE pin)
you need to change R193 to 1K for proper amplitude



208-tr3.gif (5.2 KiB) Viewed 147 times

5) trim MO:PULSE to 0-4V waveform (monitor on MO:PULSE pin)



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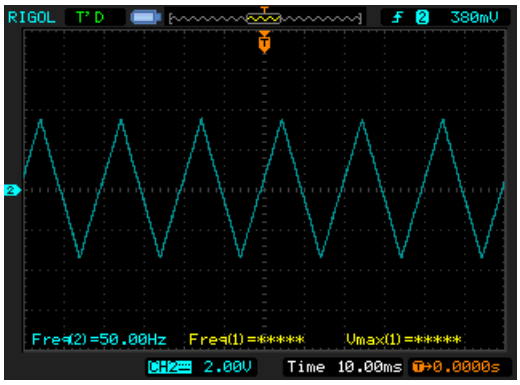
6) check -3.75V/+3.75V waveform on MO:SIGNAL pin



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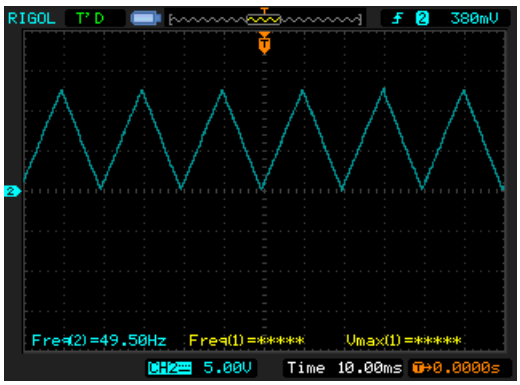
7) check 0-13.5V waveform on MO:CV pin



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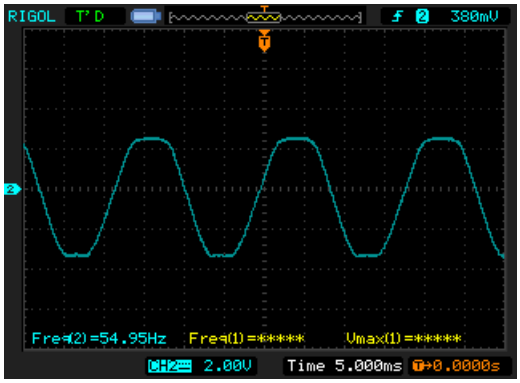
8) set MO:OFFSET and MO:RANGE full CCW, check 45-50Hz on MO:SIGNAL pin (should be 50Hz, but sometimes a bit lower - it's fine. if higher - trim it.)

9) set complex oscillator freq slider to 55Hz, fine tune to minimum

10) next 11 steps monitor CO:SIGNAL pin

11) set x-fader to sine, timbre to 0

12) trim CO:SINE for symmetry, CO:TIMBRE for no-folding



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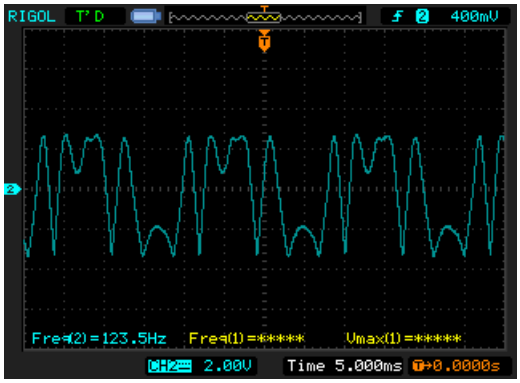
if your sine has some folding on bottom & top (i call it "ass") - replace R252 with 6K8 for wider CO:SINE range

13) try to add timbre slider



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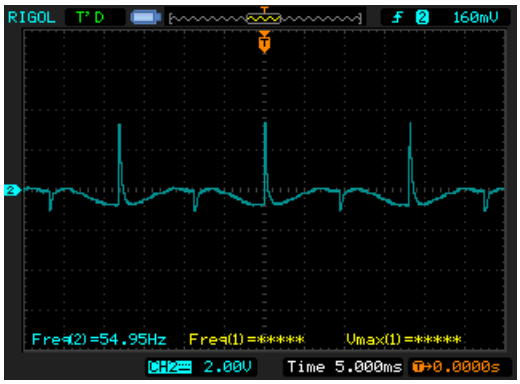
14) set x-fader to spike/square/triangle

15) trim spike/square/triangle to -2V/+2V amplitude on CO:SIGNAL pin



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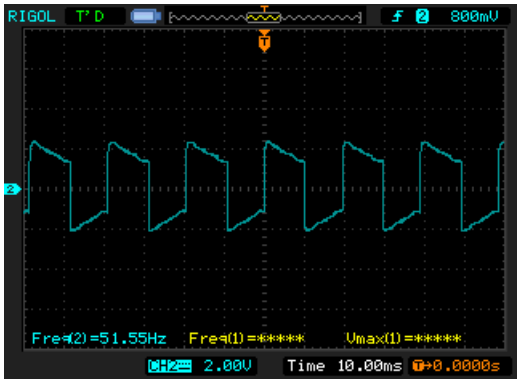

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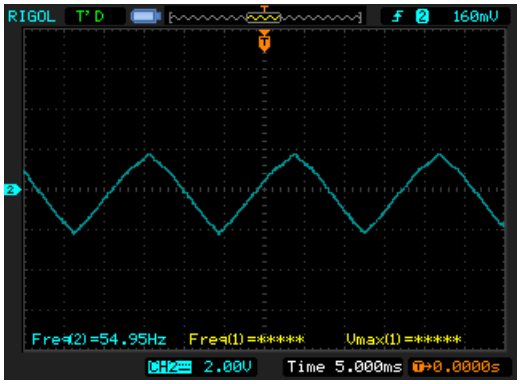

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you need to change R233 to 1M for proper waveforms here

16) trim CO:RANGE for 55Hz

17) set c/o freq slider to maximum, fine tune to minumum

18) trim CO:OFFSET for 5000Hz

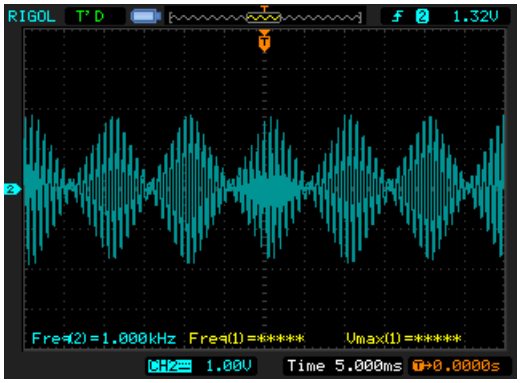
19) set c/o freq slider back to 55Hz, fine tune to minumum

20) trim CO:RANGE for 55Hz again

21) set frequency slider to 880Hz, modulation index to maximum, m/o frequency to maximum, m/o waveform to triangle, modulation switch to "a.m."

22) monitor pin1 of IC40

23) trim MODULATOR: SYMMETRY to a nice and balanced AM



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sometimes the trimmer is not enough for a balance, then change R167 to 1K. trimmer becomes much more sensitive, but wider range.

24) trim oscillators for 1.2V/oct thru 2 holes on a metal panel, adjust the linearity with CO:TRIM and MO:TRIM
you need to set IN/OUT swtiches to IN position to affect the oscillator, CV should be applied to KEYBOARD VOLTAGE jack
for 1.2V/oct - R55 on PCB1 should be 68K, R240 - 82K
for 1V/oct these resistors should be ~1.2x less values, for 2V/oct - ~1.7x higher.
2-3 octaves in tune is fine for this synthesizer.
mod osc have to be set to 50Hz before applying CV

and yes - wait for 2-3 minutes with power on before calibration.

hope this helps
roman