

Vintage Synth Lab

VCF-74 MK2 Calibration Routine ("Ver 6")

Document Rev: VCF74_Mk2_Cal_0.6 (15-July-2018)

(change from last rev = highlighted in LP CUT cal section)

Equipment needed: Frequency Counter or Oscilloscope with frequency measurement capability

The new **VCF-74 MK2 Rev-A** includes resonance calibration. There are now four calibration adjustments (**cut-off** and **resonance** per filter section).

CAUTION: be sure to turn your monitors (amp/speakers or headphones) levels down when performing this cal routine, as there will be high level, high frequency sine waves that could damage hearing and/or speakers!



All trim pots should be **centered** *before* adjustment procedure
Output gain is always set to **MAXIMUM**
Input gain is always set to **MINIMUM**

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LOW PASS adjustment:

Set BOOST switch to **off position (LEFT)**

Set HIGH PASS to **MINIMUM**

Set HP RES to **MINIMUM**

Set LOW PASS to ~ **12 o'clock position**

Set LP RES to ~ **12 o'clock position**

Adjust LP RES CAL trimmer (VR12) so that self-oscillation of resonance just starts to occur when LP RES control is at about 12 o'clock. (note: A good target for amplitude of signal is ~ 4 to 6 Vpp)

Now set LOW PASS to **MAXIMUM**

Set LP RES to **MAXIMUM**

Adjust LP CUT CAL trimmer (VR10) so that frequency of oscillation is between **15kHz and 20.0kHz**. < aim for **16.5kHz** if possible...

...If you can't obtain 16kHz at minimum VR10 setting for this test, just leave **VR10** for minimum frequency of oscillation, but no greater than 20kHz

Adjust LOW PASS to self-oscillate at 250Hz (use 200 to 300Hz).

Set LP RES to 12:00

Adjust LP RES CAL trimmer (VR12) just up to the point where self-resonance just disappears.

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HIGH PASS adjustment:

Set BOOST switch to **on position (RIGHT)**

Set HIGH PASS to **MAXIMUM**

Set HP RES to **MAXIMUM**

Set LOW PASS to **MAXIMUM**

Set LP RES to **MINIMUM**

Adjust HP RES CAL trimmer (**VR11**) so that self-oscillation is between 4Vpp and 6Vpp.

Adjust HP CUT trimmer (**VR9**) so that frequency of oscillation is between 9kHz and 10kHz. (it's okay if the amplitude drops a little bit).

Set HP RES to **~ 12 o'clock position**

Set HIGH PASS so that the filter produces an **oscillation of 150Hz** (or between 125Hz and 175Hz)

Adjust HP RES CAL trimmer (**VR11**) so that self-oscillation of resonance just disappears.

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END OF CALIBRATION PROCEDURE FOR VCF-74 MK2 REV-A (PCB)

General testing of module can now proceed

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