

Trimming the VC Resonant Gate.

There are 2 trimmers on the RG board. The SCALE TRIM adjusts the frequency range of the gate and the FEEDBACK TRIM adjusts the gain in the feedback circuit. This will control the amount of resonance when in filter mode and can be used to adjust the amount of self-oscillation, or whether it oscillates at all.

To trim:

SCALE TRIM:

IF YOU HAVE A FREQUENCY COUNTER:

- Turn the MODE/RESONANCE control fully CW (clockwise).
- With OFFSET at around 12:00 the module should be oscillating.
- Turn the OFFSET POT fully CW.
- Adjust the SCALE TRIM until the oscillations are in the 19-20khz range.

WITHOUT A FREQUENCY COUNTER:

- Turn the MODE/RESONANCE control to approx. 10:00
- Apply a square or sawtooth wave to the INPUT
- Turn the OFFSET POT fully CW.
- Adjust the SCALE TRIM until the waveform is undistorted on an oscilloscope, with sharp saw transitions or unrounded square corners.

If you don't have a Freq Counter or Oscilloscope then just adjust for a very high oscillation or unfiltered sound

FEEDBACK TRIM:

- Turn the MODE/RESONANCE control fully CW
- Set the OFFSET pot so the module oscillates at 1-3khz (or a moderately high frequency).
- Adjust the FEEDBACK TRIM so that the module stops oscillating.
- Adjust the trim till the module starts oscillating, then continue until the sine wave distorts on an oscilloscope, or if doing it by ear until the pitch of the tone starts to shift.
- Back off the trim until the sine is undistorted, or until the pitch corrects.
- Try adjusting the MODE/RES control. Oscillation should only occur with the control turned past approx. 4:00 to fully CW.

NOTE: The FEEDBACK TRIM can be adjusted so no self-oscillation will occur, or it can go into mad-uncontrolled distortion. The choice is up to you...

NOTE 2: Self-oscillation is very frequency dependent, and will tend to die off the lower the frequency.

NOTE 3: I've found it very difficult to reliably adjust the FEEDBACK TRIM for self oscillation in a "Slow Gate" build (using the 5C4/2 vactrol for the dual)