

AR-314 V C F TRIM PROCEDURE

RECOMMENDED EQUIPMENT: Audio Sine Wave Generator, or AR-317 VCO, DC and AC voltmeter. OPTIONAL: Square Wave Generator, Oscilloscope

- () 1. Turn all 4 trim pots to center position.
- () 2. Connect a D C voltmeter or scope to one of the outputs.
- () 3. Set FREQ dial to 1 KHz, and RESONANCE at Min.
- () 4. Turn on power, and adjust trim pot R20 for zero volts D C at output (within + or - 0.5 v).
- () 5. Set the RESONANCE control to approximately 2/3 of its maximum, and FREQ to 16 Hz. Connect VCF output to an AC voltmeter or scope. Feed a sine wave of 16 Hz, and about 1 volt RMS, into the variable signal input (#1) of the VCF. Adjust trim pot R6 (Frequency trim) for the maximum amplitude response at the output. Keep the input level low enough to be able to observe a smooth variation of the output as the trim is adjusted, so that the VCF amplifier stages do not clip the waveform at the maximum response. Check the setting by varying the input frequency around 16 Hz and observing the peak response.
- () 6. Change input frequency to 16 KHz. Adjust R5 (1 volt per octave trim) for maximum output amplitude. Again, keep the input level low enough to avoid distortion. Vary input frequency to verify accurate setting.
- () 7. Repeat steps 5 and 6 once, as they interact slightly.
- () 8. Remove the input. Set the RESONANCE control to minimum, and the FREQ control to 256 Hz. Connect the output to a DC voltmeter or scope. Adjust offset trim pot R20 for zero volts DC, within + or - 0.1 volt.

OPTIONAL SYMMETRY TRIM

FIRST TRIM ACCORDING TO PREVIOUS STEPS 1 through 8.

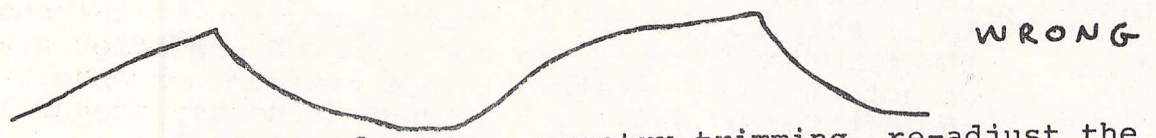
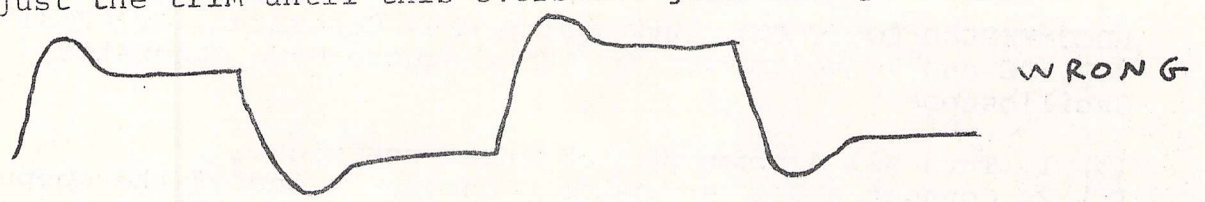
METHOD A:

- () 1. Set FREQ. control to maximum, and RESONANCE to minimum.
- () 2. Connect a DC voltmeter between R21 and R25, using the ends away from the CA3080 amplifiers.
- () 3. Adjust symmetry trim pot R13 for zero volts DC, within + or - 0.1 volt.

METHOD B : (more accurate)

- () 1. Set FREQ control to 1 KHz, and RESONANCE to minimum.
- () 2. Feed in a square wave, of approximately 200 Hz, and less than 10 v peak to peak, to the VCF variable signal output.
- () 3. Observe output on an oscilloscope. Adjust symmetry trim pot R13 over its full range. Notice that at one end, the square wave "overshoots", that is, it momentarily exceeds its final value. (See next page for illustration.)

Adjust the trim until this overshoot just barely disappears:



IMPORTANT: If you perform any symmetry trimming, re-adjust the FREQUENCY trim at 16 Hz, per step 5 of the previous procedure.