

EH-8000 Guitar Synthesizer Alignment Procedure:

- 1) Short IC205 Pin 6 to IC206 Pin 3
- 2) Adjust R212 for minimum drift at IC206 Pin 6 (the voltage at pin 6 should be close to ground, but the important thing is minimum drift.
- 3) Remove short installed in step 1.
- 4) Set VCO1 & VCO2 volume to off, adjust VCO3 and direct levels so that tuning comparison may be made. Tuning is most easily done with a signal generator or keyboard instrument so that continuous test signal may be applied while tuning. Turning "Fuzz" on the direct input will help if your input signal is harmonically pure.
- 5) Set signal generator to pitch close to top of guitar range (1kHz is good)
- 6) Adjust R206 so that VCO3 is in tune 1 octave above input signal.
- 7) Set signal generator to pitch at low end of guitar range (80 - 100 Hz).
- 8) Adjust R208 so that VCO3 is in tune 1 octave above input signal.
- 9) Repeat steps 5 - 8 as necessary until both high and low ends are in tune. Note that if you have access to an oscilloscope the tuning process is much easier if you look at the signal "DIF" at IC204 Pin 6 while you do the tuning. When you see no "beating" on the scope VCO3 is in tune.
- 10) Set VCO3 volume to off, turn up VCO1 volume.
- 11) Set signal input to about 1kHz.
- 12) Tune VCO1 to unison with the input signal.
- 13) Set signal input to 100Hz.
- 14) Adjust R223 to bring VCO1 in tune.
- 15) Repeat steps 11 - 14 as necessary.
- 16) Repeat steps 11 - 15 with VCO2, adjusting R238 instead of R223.
- 17) R207 can be adjusted for best compromise between tracking speed and overshoot. This adjustment is best made with actual guitar input. Alternate between notes an octave or so apart and adjust R207 for the best sound.