

EML-101 S/N 294

YOUR SYNTHESIZER IS IN TOP CONDITION. THANK YOU FOR A GOOD, WELL DEFINED PROBLEM LIST; IT REALLY HELPS!

AS REGARDS FULL KEYBOARD TUNE AND TWO NOTE INTERVALS;

OSCILLATOR TRACKING WITH ANOTHER FIXED PITCH KEYBD. (YOUR HAMMOND) WILL BE VERY GOOD IN "0" OCTAVE. HOWEVER, GETTING ALL OSCILLATORS (1 THRU 4) TO MAINTAIN HARMONIOUS TRACKING WITH EACH OTHER OVER THE KBD RANGE IN DIFFERENT OCTAVES IS A DIFFERENT STORY — I EXPERIMENTED WITH THE 16', 8', 4', & 2' COMBINATIONS ABOUT 2 HRS. & HAVE ENCLOSED SOME FAX SHEETS W/ REGISTRATIONS.

BASICALLY — THE OSCILLATOR CIRCUIT HAS ONLY ONE ADJUSTMENT FOR LINEARITY (ABILITY TO TRACK EACH OTHER). TO ASSURE BEST OVERALL RESULTS, ALIGNMENT IS DONE IN "0" OCTAVE AND TUNE CONDITIONS. SINCE MAXIMUM NON-LINEARITY USUALLY OCCURS AT HIGHER PITCH (HIGH END OF KB.), OCTAVE SWITCHING CORRECTION WAS CALCULATED FOR HI "C" KEY ERRORS.

THE WORST COMBINATION IS SWITCHING AN OSC. TO "+1" OCTAVE AND "+1" TUNE.

IF YOU CAN USE A SAWTOOTH WAVE, TRY GOING TO DOUBLE SAW ("COLOR") TO GO UP AN OCTAVE. THIS IS EXACT AND WILL NOT AFFECT TRACKING.

NEXT, GO UP AN OCTAVE WITH THE "TUNE" CONTROL. THIS SHIFT CAUSES MINIMUM BEATING.

TUNING HINTS — FORGIVE ME IF I'M TELLING YOU STUFF YOU ALREADY KNOW.

AFTER LETTING IOI WARM-UP ABOUT 15 MINUTES, TUNE OSC 2 TO YOUR STD. KEYBD. — HOLDING LOW "F" KEY (OCT. "SW. @ "0") USE OSC 2 "TUNE" FOR ZERO BEAT W/ ORGAN "F" — THEN HOLD HIGH "C" KEY AND USE "KEYS/OCT FINE" TO ADJUST TO ORGAN "C" NOTE. OSC. 2 SHOULD TRACK WITH ORGAN.

OSCILLATORS THAT WILL GO LOWER THAN "0" OCTAVE, 16' OR 32', WILL NOT BE A PROBLEM. USUALLY, HOLDING HI "C" KEY AND USING THAT OSC'S. "TUNE" FOR A ZERO BEAT WILL BE EASY. STILL, ADJUST CAREFULLY FOR A HARMONIOUS BLEND.

TO HAVE ONE OR TWO OSCILLATORS ABOVE "0" OCTAVE (4' OR 2') TRY TO USE THE DOUBLE SAW (M) ON THE "COLOR" FIRST, THEN THE "TUNE". THE BEST RESULTS USUALLY OCCUR WITH HOLDING THE "E" OR "F" KEY IN THE HIGHEST KEYBD. OCTAVE, TO TUNE TO ZERO BEAT (OR DESIRED ROLL).

IF YOU HAVE TO USE BOTH "TUNE" AND "OCTAVE" AT "+1" — VERY CAREFULL TUNING IS REQUIRED.

TRY ANY OF THE COMBINATIONS TO GET BEST RESULTS.

WHEN USING OSC. 3 AND 4 TO FOLLOW HIGH NOTE (KB-2) THE INSTRUMENT GIVES LITTLE OR NO PITCH SHIFT ON MODE CHANGE, AND OCTAVE SPANS ARE GOOD. YOUR IOI DOES HAVE MORE INTERVAL BEATING ESPECIALLY IN THE HIGHEST KEYBOARD OCTAVE. THAT CANNOT BE IMPROVED.

YOU WILL NOTICE (I HOPE) THAT THE INSTRUMENT IS MUCH BETTER THAN WHEN LAST USED.