

M.O.S.P.

Specific Procedure Specification

Procedure Number 0 2 9 - 1 0 0 3 - 0 0 1Title PITCH TRANSPOSER UPPER BOARD.- ELECTRONIC PERFORMANCE TEST

EQUIPMENT: Oscilloscope, frequency counter, sine wave generator, DMM

1. Insert 4027's, 6072, 4016's, 511
2. Plug Upper Board into a working Lower Board. Make sure wire harnesses are correct.
3. Check +5V, +15V, and -15V supplies on Upper Board.
4. Check master clock to fall between the range of 1.3 MHz to 1.4 MHz, at pin 9 of 2502 (U-21). Clock should be at 50% duty cycle. If clock frequency does not fall between its specified range, adjust R-8 (130 ohm res.) accordingly (\downarrow R).
5. Probe the intin clock-wave at Pin 10 of 40106 (U-24) for a 5 μ sec + 5% on time. Probe intout clockwave at Pin 8 of 40106 (U-24). Adjust R-20 (20K trimmer) so that intin matches intout. If trimmer does not cover enough range, adjust R-19 (43K) accordingly.
6. Probe ~~sin~~ clockwave at Pin 4 of 40106 (U-24); compare it to sintin clockwave at Pin 13 of 40106 (U-24). Vary a preset, making sure that the two waveforms do not overlap.
7. Connect a trigger probe to Pin 8 of 7470 (U-5), the read/write clock pulse. Set a preset at 0.0.
8. Input approximately a -10 dB @ 300 Hz signal to the instrument input.
9. Triggering off the read/write waveform, probe the output of LM356 Pin 6 (U-30) for a clean digital approximation waveform.
10. Probe Pin 1 of 4558 (U-15) for an approximation of a sine wave that inputs to NE571 (A-10). also look at pin 7 of U-15.
11. Connect the trigger probe to splicing clockwave at Pin 1 4013 (U-27); open the input to the unit.
12. With a preset at 12.3 probe R78 (side closest to the NE571's output) and adjust 20K trimmer (R-74) for minimum feedthrough. Repeat procedure for R85 and R82 (just a compliment of R78, and R74). Probe output of Upper Board at TL072 pin 7 (U-22), making sure that there is no feedthrough at this point. Also at this point adjust the 2K trimmer (R79) for minimum ripple with an input \approx 300 Hz @ -10 dB.
13. With a preset at 0.0, adjust the output level trimmer (R97). Do this by comparing the input to the Upper Board to the output (PM 7 TL072, U-22): Adjust R-97 accordingly.

USING AN AMP TO INCREASE PROBE GAIN
 AND FILTER THESE SIGNALS HELPS



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14. Ground the instrument input. With a preset at 0.0 and the mix knob to full effect, and the level switch in the low position, measure the noise to be $-90 \text{ dBm} \pm 2 \text{ dBm}$. Measure the noise in the bypass mode to be approximately -98 dBm or better.
 15. Solder all trimpots.