Citation II -2023 ASsembnly, Setup & Test

Board assembly

1. Two resistors are labeled wrong. R43 & R45

   R43 6.2 k 2W should be 8.2k 2W
   R45 6.2 k 2W should be 8.2k 2W

2. The resistor just below R46 5k pot is R37, 4.7k 2W. The silkscreen is missing R37.

3. The 8 pin sockets notch pin goes toward the 9 pin sockets. The square pin is pin 1.

4. Thwe square pin of the 9 pin sockets is pin 1.

5. R46 & R44 5K Pots mount from the BOTTOM of the board.

6. None of the TP holes are used. Too small.

7. Mounting holes might need to be drilled out depending on hardward used to secure the board.

8. Board stuffing order

   Do the 1/2 watt resistors first.
   Do the small caps next.
   Do the large watt resistors next
   Do the l;arge caps next.
   Do the terminal block next
   Do the tbe sockets next.
   Do the 5k pots last from the bottom.

9. Stuff the power supply board, and do the big capaciors LAST.

Power supply board test

1. Verify bias and main power supplies. Bias -66VDC Main 460 VDC.
2. Main fuse 4 am p.

NOTE: 460 VDC is presen thoughout this pc board.
Caution is advised.

You will need a shorting stick to drain the manin capcitors if no tubes are mounted ion the pcb. Shorting poins are between the two caps. A loud snap and sparks will appear when discharge points are shorted.

Main board test setup and test.

1. Hook up all of the wire connections to the main pcb.

    A. Both output transformers.
    B. Main transformer
    C. Both audio inputs and grounds.
    D. Both 8 ohm (+ Speaker termnal) to the 8 ohm on pcb.
    E. Bias meter wires if used.
    F. Three power supply wires, Ground, Bias and 460 VDC

1. Adjust the four Bias pots, R48, R49, R54, R55 - **Fully Counterclockwis**e. Viewing the board from the **FRONT**.

2. With NO tubes mounted in the boards verify the follwing voltages

    A. Check the 6.3VAC filament voltages on all the tubes.
        1. Pins 4/5 to Pin 6 on all the 9 pin sockets.
        2. Pins 2 to 7 on all the 8 pin sockets.

    B. Pins 3 & 4 of the 8 pin sockets should be 460 VDC.
    C. Pin 5 of all the 8 pin sockest should read the bias voltage -66 VDC. I f yu adjust one of the biaspots this should chan ge from -66 vdc to -40vdc .

3. Bias c an be set two ways. Make sure that the audio input connection s MUST be removed. Ideal the iaudio inputs should be shorted.

    A. Using a bias meter switch,set the following positions too:
    This measurement is the voltage across the 4 cathode resistors.
        1. Switch position 1 - OFF
        2. Switch position 2 - V10 Adjust R49 for 500mV.
        3. Switch position 3 - V9 Adjust R48 for 500mV.
        4. Switch position 4 - V5 Adjust R54 for 500mV.
        5. Switch position 5 - V4 Adjust R53 for 500mV
        6. Run unit for an hour, balance all settings as needed.

6. Turn switch OFF when done..

B . 1. Turn power OFF, remove all 4 output tubes.
2. Measure the bias voltage from pin 5 of each tube to ground.
3. Set pin 5 to -50VDC for each tube.
4. Set points.
   a. V10 - Resistor R51, right end of resistor.
   b, V9 - Resistor R56, right end of resistor.
   c. V5 - Resistor R57, right side of resistor.
   d. V4 - Resistor R58, bottom side of resistor.

4. Once all the voltages have been adjusted an audio sign al can be applied to unit.

Left Channel

a. R6 33k input to V1
b. R10 12k 5W V1 output Right Side.
c. R34 10k input to V2.
d. R39 4.7 2W output V2.
e. R58 10K input to V4 .
f. R35 10K input V3.
g. R40 12k 3 W output V3.
h. J11 pin 1 output V4 .
i. J11 pin 5 output V5.

Right Channel

a. R4 33k input to V6
b. R8 12k 5W V6 output Right Side.
c. R31 10k input to V2.
d. R37 4.7 2W output V7.
e. R56 10K input to V9 .
f. R32 10K input V8.
g. R38 12k 3 W output V8.
h. J10 pin 1 output V9 .
i. J10 pin 5 output V10.