HICKOK 539B & 539C
ANALOG
TUBE TESTER OPERATION

1. The instruction manuals give adequate information, but it can be confusing.

2. **POWER ON** and give the internal tubes a few minutes to warm up, but its not necessary with the Solid State option installed.

3. **POWER ADJUST** to indicate **100VAC** on the **AC Meter**.

4. **POWER ADJUST** will need to be adjusted for every test as tube loading may change it..

5. **CATH ACT** switch set to **NORMAL**.

6. **TUBE SETUP** using either the **Roll Chart** or **Chart from a Manual**.

7. **FILAMENT SWITCH** set to to the **VOLTAGE** shown on the Chart.

8. **SELECTOR SWITCHES** set from left to right as shown on the Chart.

9. **BIAS VOLTS** – **VR Switch** in the down position.

10. **BIAS ADJUST** for **BIAS METER** reading as shown on the Chart.

11. **FUNCTION set as shown on the chart.**

12. Install the tube in the appropriate socket

NOTE: The tube must be tested for shorts. It may be normal for a tube to short in some positions so check the NOTATIONS on the Chart.

13. **SHORTS TEST** Rotate the switch through the 5 numbered positions while observing the neon SHORT lamp. **A steady glow on the lamp indicates a short and unless listed as normal in the NOTATIONS it should be DISCARDED.** Return the switch to the Test Position

14. **PRESS** the button indicated on the chart to initiate the test. If **P4** is called for always press **P4 UNLOCK** first to make sure everything looks normal. You can then press **P4 LOCK** to complete the tests. **NOTE:** The FUSE LAMP may glow when checking power tubes and this is normal unless it gets very bright.

15. **RESET AC to 100 volts and Bias to the chart value** before reading the Gm value. **A very common mistake is made here by not resetting these meters with the tube under testing conditions.** **Digital Meter**

16. **P4 MAIN METER** will be indicating, but you must read transconductance on the scale indicated by the Function Switch Range. **Digital Meter** will be indicating % of the Function Switch Range.

17. **MIN MUT COND** is the value at which **Hickok recommends** discarding the tube also referred to as the **RP reject point**. Of course in some circuits it may work fine, so depending on the tubes value it may be worth keeping as long as it's working.

18. **LIFE TEST** switch the **CATH ACT** to the **TEST** position and that the **Gm** reading does not fall more than **20%**.

19. **GAS TEST** follow instructions in the manual.
NOTE: TURN BIAS UP BEFORE STARTING THE TEST OR METER DAMAGE COULD OCCUR.

20. **P1, P2 OR P3 MAIN METER for rectifiers and diodes. Follow the instructions in the manual GAS TEST is** not used for diodes and rectifiers.
NOTE: SHUNT CONTROL MUST BE SET BEFORE TEST OR METER DAMAGE COULD OCCUR.

21. **VR TEST, LIFE TEST AND OTHER TEST'S** refer to the manual for the testing procedures.