Troubleshooting Model 212R if the zero adjustment is not working

1. Fold down the front panel of the unit by loosening the thumbscrews, exposing the inside of the unit and the main Printed Circuit Board mounted on the door.

2. Check the wiring which connects to the zero pot to make sure it is not broken or has a loose connection at the connector J3 of the main Printed Circuit Board.

3. If the wire connecting the zero pot to connector J3 appears fine and the cable seems seated in the connector J3, check voltages.

4. Connect a Digital Voltmeter set to DC Volts so the negative lead is connected to circuit ground. (Connect to the right side lead of Capacitor C311 located underneath the black heat sink of the main board).

5. Then connect the positive lead of the Digital Voltmeter to connector J3, pin 1. This should read -10V ±0.2VDC. If it does not read -10VDC, check to pin 1 of U5A. This should read 10VDC.

6. If pin 1 of U5 does not read 10VDC, then check pin 6 of U4. This should read +10V DC. If this voltage is correct but pin 1 of U5 does not get -10V, there may be a problem with Amplifier U5.

7. If no problem is detected so far, check the zero pot itself as follows:

Connect the Digital Voltage positive lead to the slider of the Zero Potentiometer which is at pin 2 of connector J3. If you turn the pot all the way clockwise it should read -10V, and if you turn it all the other way, it should read 0 V. If this does not happen the Pot itself may be bad.

8. If all checks out so far, we should check the next amplifier stage, which is Amplifier U5B. If the pin 2 of connector J3 is at -10V achieved by turning the Zero Potentiometer all the way to -10V, the output of U5B, which is at Pin 7 should be the same. This amplifier is configured to be a unity gain buffer, so it should just be the same voltage as pin 2 of J3 at all times.

9. If this checks out, move the Digital Voltmeter positive lead to pin 14 of U7D. This voltage should be about 1 VDC. If it is not, there may be a problem with the Amplifier U7.