

## **ACL MODEL #350 CALIBRATION PROCEDURE**

### **Laboratory instruments used for this procedure:**

1. ETS 810 High Voltage(0-10KV) Power Supply
2. Simco EA-2 Charge Plate Monitor (6x6 inch plate) OR Prostat CPM-760 6" Plate
3. Floating Power Supply- Tenma 0-30 volt DC Maximum
4. Laboratory Test Fixture with Instrumented Clamp Holder
5. Instrument to be calibrated- ACL 350
6. Personnel Grounds - Tested

### **Procedure:**

1. Attach the ETD 810 Power Supply to the EA-2 6-inch plate using the high voltage lead provided.
2. Place the ACL 350 instrument into the test fixture clamp
  - a. The instrument sensor should be exactly 1 inch away from the 6-inch plate
  - b. The ACL 350 should be 6 inches above the calibration table
3. Adjust the floating power supply to approximately 9.2V DC
4. Turn on the ACL 350 by pressing the power button

*NOTE: The ACL 350 has a built in time out function, approximately 60 seconds. After the power switch is pushed, the unit will turn itself off in 60 seconds. Before each test reading, push the power switch to reset the time out function. Before each test, reading the ACL 350 must be re-zeroed to ground. Ground the CPM target plate and push the ground button twice to obtain a zero display.*

5. Ramp up the ETS 810 Power Supply Voltage to positive (+) 1KV. This voltage is being applied to the 6-inch plate through the high voltage cable.
6. Observe that the instrument measurement being displayed is plus or minus 5% of the applied voltage (+1KV +/-5%).
7. If so, document the measurement in the correct spot on the calibration sheet.
8. If not, unit is out of calibration and needs to be returned for sensor replacement.
9. Turn ETS Power supply off.
10. Push the power button to reset the 60 second time out function on the ACL 350 and re-zero as noted before.
11. Ramp up the ETS Power Supply Voltage to negative (-) 1KV. This voltage is being applied to the 6-inch plate.
12. Observe that the instrument measurement being displayed is plus or minus 5% of the applied voltage (-1KV +/-5%).
13. If so, document the measurement in the correct spot on the calibration sheet.
14. If not, unit is out of calibration and needs to be returned for sensor replacement.
15. Turn ETS Power Supply off.
16. Push the power button to reset the 60 second time out function on the ACL 350 and re-zero as noted before.
17. Repeat steps No. 5 through No. 10 at +/-5KV
18. Repeat steps No. 5 through No. 10 at +/-10KV.
19. LOW BATTERY TEST:
  - a. After all tests are finished and documented unit should be tested for low battery display on the LCD
  - b. Lower the voltage on the Tenma Floating Power supply to less than 7.2 volts.
  - c. The low battery display should come on to less than 7.2 volts.
  - d. Adjust the Tenma Floating Power Supply to greater than 7.2 volts.

e. The low battery display should go off when the voltage reaches greater than 7.2 volts.  
20. After all procedures are successfully completed and documented, place a calibrated sticker on the instrument.

**NOTE:** *NO INTERNAL ADJUSTMENTS CAN BE MADE TO THESE UNITS. AT ANY POINT IN THE UNIT FAILS A PROCEDURE, THE UNIT MUST BE RETURNED FOR SENSOR OR BOARD REPLACEMENT.*