



7700 TEST KIT OPERATIONS MANUAL

The following specifications apply to the CosaTron Model 7700 Digital Test Kit.

SPECIFICATIONS:

HV DISPLAY ----- 3 Digit (XX.X KV), LED

HF DISPLAY ----- 3 Digit (XX.X VRMS), LED

INPUT VOLTAGE

HV METER ----- 35KVdc Maximum

HF METER ----- 2200Vp-p Maximum

ACCURACY

HV METER ----- +/- 2% from 20KV to 30KV

HF METER ----- +/- 5% from 550 Vrms to 750 Vrms

INPUT IMPEDANCE

HV METER ----- 5 Gig. Ohm

HF METER ----- 10 Meg. Ohm

RESOLUTION

HV METER ----- 100 Vdc

HF METER ----- 1 Vrms

OPERATING TEMPERATURE ----- 0 Deg. C to +45 Deg. C

STORAGE TEMPERATURE RANGE ----- -25 Deg. C to +65 Deg. C

POWER SOURCE ----- 9Vdc voltage supply and internal
rechargeable nickel-cadmium cells.

CHARGER ----- 115 Vac 60Hz, 0.2A, 9 Vdc, negative tip

CHARGE TIME ----- 4 hours

OPERATING TIME between charges ----- 4 hours continuous

Can operate when attached to power
supply/charger.

DIMENSIONS ----- 9.25" x 5.50"H x 7" D (in case)

WEIGHT ----- 4Lbs with charger and cables

ACCESSORIES SUPPLIED

9 Vdc power supply/charger, 6' ground cable, (optional 3' low voltage input cable).

UNPACKING AND INSPECTION

Remove the meter from the shipping container. The box should contain the following items:

1. Model 7700 High Voltage Meter
2. Operation Manual
3. 9 Vdc power supply/battery charger (not supplied with exported units).
4. 4' ground cable.

Account for and inspect all the above items. If any of these items are missing or damaged immediately notify CosaTron.

PREPARING FOR OPERATION

The internal nickel-cadmium batteries must be charged prior to operation. To fully charge the batteries, the test kit should be charged for 4 hours with the power switch on the front of the test kit in the off position.

A battery OK indicator light is provided on the front panel of the Digital Test Kit. Once the indicator is off the Test Kit may be used for approximately 20 minutes.

NOTE: The Digital Test Kit may be used with discharged batteries by utilizing the charger as the power supply.

To retain the maximum life of the nickel-cadmium batteries it is desirable to fully charge the batteries prior to each use and to fully discharge the batteries before they are charged again. Leaving the unit on until the display is no longer visible discharges the batteries.

OPERATING INSTRUCTIONS

Before connecting the Test Kit complete steps 1 through 7 of the CosaTron start-up procedure.

The Digital Test Kit may be utilized in two manners:

1. Connecting directly to the electrodes.
2. Connecting to a low voltage output jack (optional), supplied on some systems.

CONNECTING TO ELETRODES

This method may be used on all CosaTron power generators and electrode assemblies.

1. Make certain the power generator servicing the electrodes is turned off.

2. Insert the green 6' ground lead (banana plug) into the designated jack on the rear of the Test Kit.
3. If the system is not equipped with effective bleed resistors see note below:

NOTE: Discharge electrodes. The high voltage (HV) electrode retains a charge after the power generator has been turned off. The HV electrode should be discharged prior to connecting the test leads to the HV electrode. Using a long screwdriver with an insulated handle, or an insulated jumper wire attached to ground, short the HV electrode (smaller of the two) to ground. (the support framing or plenum wall should be an adequate ground).

4. Connect the green ground wire to the plenum or support framing,
5. Connect the red alligator clip to the HV electrode that is furthest distance electrically from the power generator.
6. Connect the black alligator clip to the corresponding high frequency (HF) electrode (largest of the two electrodes).

Warning! Reversing the red and black test kit leads will damage the Test Kit.

7. Make certain the green ground wire does not come within 3" of the HV electrode.
8. The power generator and Test Kit may now be turned on.
9. For the most meaningful (accurate) measurements, allow the power generator to reach thermal stability (approximately 15 minutes) before recording the output.

TESTING THE POWER GENERATOR OUTPUT USING THE LOW VOLTAGE OUTPUT JACK

A low voltage "test point" is provided with the optional Model 5200 Electrode Sensor Unit, the Model 5260 Feedback Alarm Module and the ComputerPacs manufactured with this accessory. Interconnection between the "test point" and the Test Kit is accomplished by connecting the 3' (¼" male to ¼" male) cable into the low voltage input on the Test Kit and the test point on the Model 5300, 5260 or ComputerPac. The voltage on the electrodes may now be read directly on the Test Kit.

NOTE: It is not necessary to connect the ground wire or turn off the power generator when connecting to the low voltage output. Consequently, the voltage measurement may be taken immediately without having to wait for the generator to reach thermal stability, assuming the generator is under normal operating conditions at the time you approached the unit to be tested.

ACCEPATBLE OUTPUT VOLTAGES

The following output is acceptable when measuring a unit powered by a CU-650, CU-600, CU-625, CU-525, CU-525 EXP, CU-555, CU-425, ComputerPac, CU-730, CU-550, and CU-325:

HV Electrode: 22.5 – 28KV (nominal 25KV – 22 to 27)

HF Electrode: 500 – 800 Vrms (nominal 550 Vrms – 500 – 800)

The following output is acceptable when measuring a unit powered by a CU-230, CU-230 MOD IV, and CU-232:

HV Electrode: 12 – 17KV (nominal 14KV – 12 to 17)

HF Electrode: 500 – 800 Vrms (nominal 650 Vrms – 500 – 800)

The following output is acceptable when measuring a CT-10 minigen”:

HV Electrode: 5 – 9KV (test kit places a load on HV module so lower readings are expected)

HF Electrode: 500 – 800 Vrms (nominal 650 Vrms)

Because of loading, the actual voltage present on the electrode screen assembly will be higher when the test kit is not connected. The voltage ranges listed above indicate proper operation of the HV circuit with the test kit connected.

TESTING MULTIPLE GENERATORS IN ONE PLENUM

When the cross-sectional area of the screen assembly exceeds the generator’s maximum rating, listed below, more than one power generator is used to drive that screen assembly. The output of each generator should be measured with the other generators turned off.

Generator maximum rating:

92 Sq.Ft. for a UC-650 and CU-625. 60 Sq.Ft for a CU-600, 64 Sq.Ft. for a CU-525, 72 Sq.Ft. for a CU-525 EXP, 32 Sq.Ft. for a CU-425 and 64 Sq.Ft. for a CU-550.

MAINTENANCE

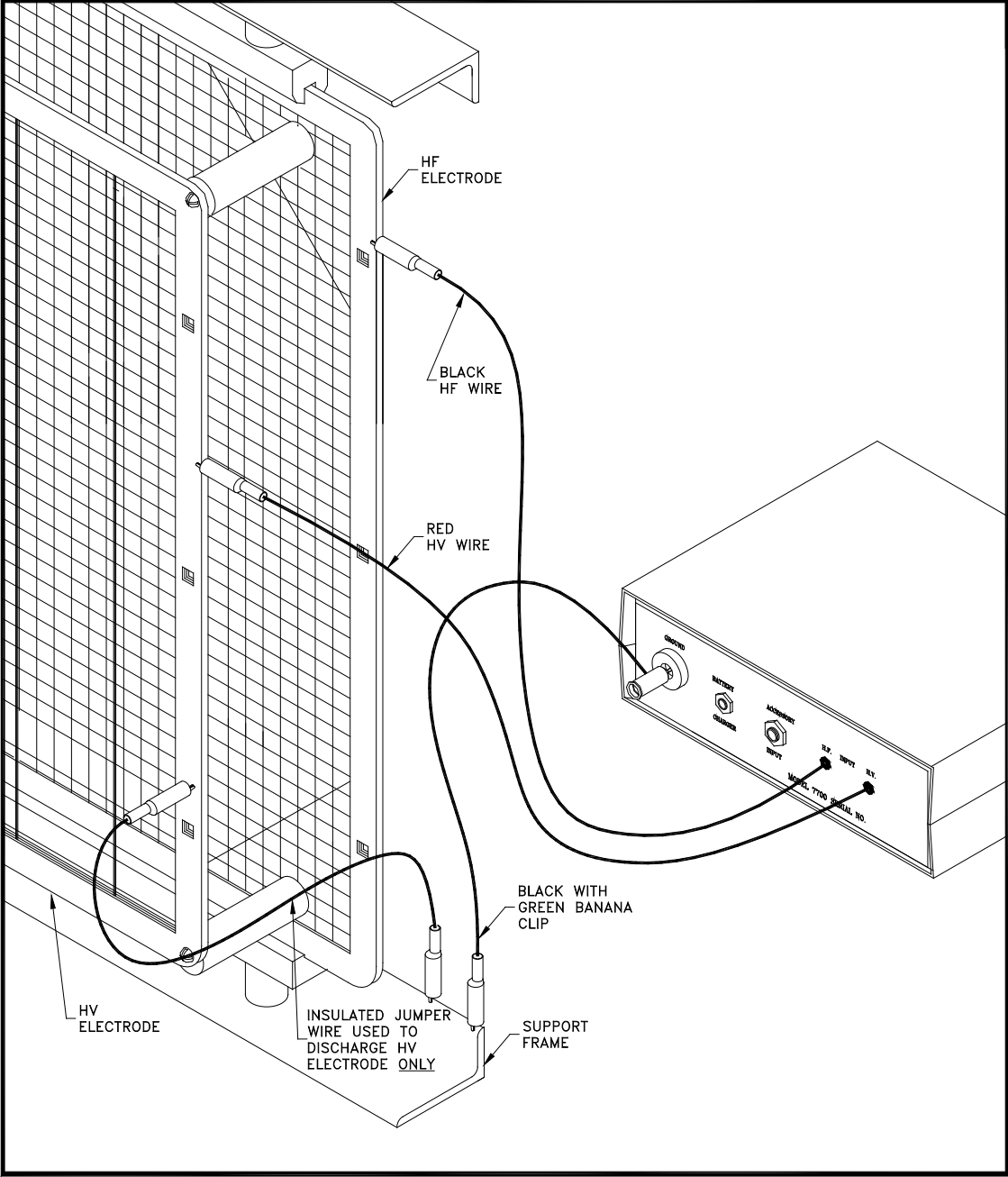
The Digital Test Kit is a precision electronic device. Opening the case cancels calibration and warranty. Do not expose to extreme temperatures below -4 Deg F (-20 Deg. C) or above 140 Deg. F (60 Deg. C); protect from moisture and extreme humid areas where condensation could occur inside the casing.

The CosaTron Digital Test Kit comes to you fully calibrated and tested. Annual re-calibration is recommended. Should your meter require repair, DO NOT try to repair it yourself. Return the unit to CosaTron to be serviced/repared by authorized technicians.

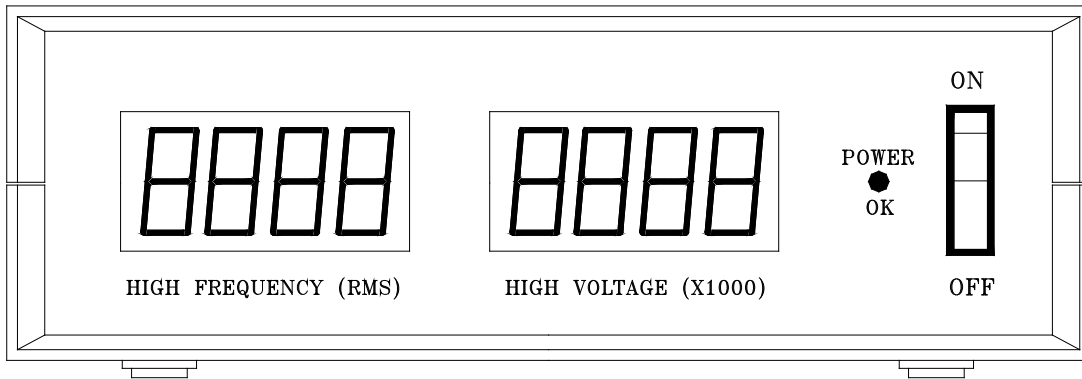
A WORD ABOUT SAFETY

Every precaution has been taken in the design of the Test Kit to ensure safety of operation. However, electrical shock may occur if any part of the body comes into proximity of a high voltage point. Therefore, the power generator should always be turned off and the electrodes should be discharged anytime you connect to or disconnect from the electrodes.

IMPORTANT NOTE: THE PROPER AC ADAPTER MUST BE USED WITH THESE TEST KITS. OUTPUT POWER REQUIREMENTS ARE DC 9V, 200mA, WITH POSITIVE TIP POLARITY, 2.5mm PLUG.



FRONT PANEL



BACK PANEL

