

Made in America

# Ground Gard 5 Verification and Calibration Tester Calibration and Installation Instructions



Figure 1. SPI 94370/94371 Calibration Unit for Ground Gard 5

## Ground and Power Test

Plug existing Ground Gard 5 power plug from wall cube into test unit connection. Plug test unit cord into Ground Gard 5 head module to be tested.

RESULTS: Ground sense led on head module should be green, power led on tester should be green.

**STEP #1:** Pressing button #2 simulates an open ground condition.

RESULTS: The ground sense led should flash red and alarm ( on audible unit only ) showing the Ground Gard 5 is working properly.

**STEP#2:** Pressing button #3 simulates a high resist condition (Over 10meg ohm).

RESULTS: The ground sense led should oscillate from green to amber indicating the Ground Gard 5 is working properly.

**STEP#3:** Attach coil cords (provided) to the wrist strap remotes, with toggle switch in left position.

RESULTS: Left/right LEDs should flash red and alarm indicating an open ground.

## Wrist Strap Test and/or Calibration

Place toggle switch in the right position for the following tests. Ground Gard 5 leds should remain green.

### Test:

**STEP# 1:** Pressing buttons 1 or 4 simulates a high resist condition in the left/right remote unit.

RESULTS: The wrist strap LEDs on the Ground Gard 5 module should flash red indicating the remote adjustable tolerance are correct and working properly.

If the wrist strap leds do not operate correctly in step#1, they should calibrate remote units. Use this tester to calibrate remotes. See Ground Gard 5 calibration procedures on page 2.

## Resistance Verification of Tester 94370

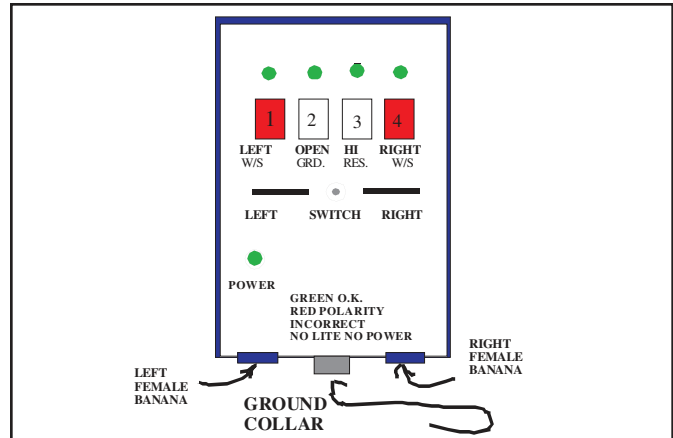


Figure 2. Switches 1 and 4

**SWITCHES # 1 AND 4** are for right and left wrist strap test and calibration. To verify place one ohmmeter probe at the female banana located in front of unit, and the other probe at the collar.

**SWITCHES 1 OR 4 NOT** depressed readings from female banana plug to ground collar will read 1.5 meg ohms  $\pm$  2%.

**SWITCHES 1 OR 4 DEPRESSED** readings from female banana plug to ground collar will read 2.0 meg ohms  $\pm$  2%.

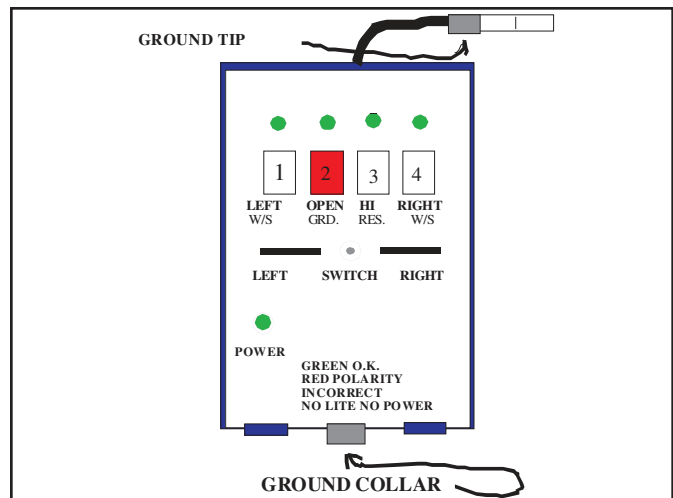


Figure 3. Switch 2

**SWITCH #2 - DEPRESSED** simulates an open ground condition.. To verify place one ohmmeter probe at the ground point on the back of the 3.5mm plug, and the other probe at the collar will read OPEN.

**SWITCH #2 NOT** depressed will read 0 ohms.

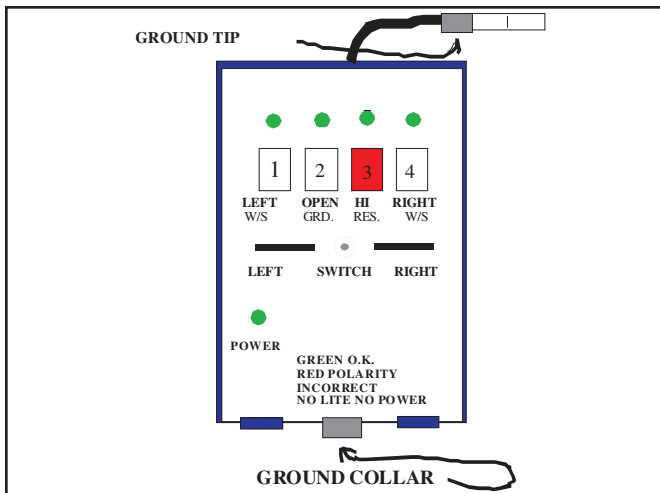


Figure 4. Switch 3

**SWITCH #3** - Depressed add resistance into the line of 10.6 meg ohm and simulates a high resistance. To verify place one ohm meter probe at the ground point on the back of the 3.5mm plug, and the other probe at the collar, reading will be 10.6 meg ohms  $\pm$  2%.

## Calibration Procedures for Wrist Strap Remotes

### Wrist Strap Remotes Description:

Inside both remote modules are infra red sensors that react to the insertion of a wrist strap wire with a banana plug. When the banana plug is inserted, the base unit is activated for that remote module. The Monitor head LED for the left or right wrist strap will lite showing the condition of that strap, if correct the LED should be GREEN. Should the wrist strap fail, be worn incorrectly or removed by the operator, the red indicator will flash, calling attention to a problem. Should the ground connection be lost, the red light and alarm will be activated. The monitors are continuous and even a momentary break will cause alarms. The remote modules are set at the factory to allow for sensitivity of the "average" human body model.

### Calibration Procedures:

With coils wires connected to test unit and each remote, observe the following. i.e. both lites should illuminate green on the head module, with no buttons depressed on the tester. Pressing button one or four should cause the left or right wrist strap led to go red simulating a high resist condition on the wrist strap, this shows the wrist remote is properly calibrated.

### If the above conditions are not met do the following adjustment.

With buttons one and four not depressed, the led display on the head module should be in a green condition. If not, find the adjusting port on the remote. Inside there is an adjusting trim pot, turn trim pot ever so slightly until the head module led turns green.

**STEP ONE:** Turn the pot until the green led triggers red, ease back until led triggers green.

**STEP TWO:** Now press the corresponding button 1 or 4 on the test unit and the led will go red on the head module. This shows the Ground Gard 5 remote is in a proper calibration.

**Note:** If the unit does not go red go back to step one and repeat procedure.

### Custom Installation Adjustments:

Should your system alarm, without obvious cause, first trouble shoot and verify all connections? If all the connections are correct, the remote should be adjusted to compensate for a different HBM (human body model). The factory presets at 100pf and your operator might be out of the normal tolerance range caused by body chemistry, bulk capacitance or impedance differences.

Follow these steps to adjust and personalize the remote module.

1. Find the small hole in the face of the REMOTE module unit. (Hole may be covered by Factory Adjustment Label) Inside this hole is a trim pot device that is adjustable by using a small flat head screw driver tool. With the system set up, operating and the operator's wrist strap connected to the remote module.
2. Turn the pot until the green light begins. Disconnect the wrist wire from the band. The unit will alarm and activate the red light. If not, turn the trim pot until the red light activates. Reconnect the wire to the wrist band and the alarm will cease and the green light will activate.

### Limited Warranty

SPI expressly warrants that for a period of one (1) year from the date of purchase, SPI Calibration Units will be free of defects in material (parts) and workmanship (labor). Within the warranty period, the product will be tested, repaired, or replaced at our option, free of charge. Call our Customer Service Department at 909-664-9986 for a Return Material Authorization (RMA) and proper shipping instructions and address. Include a copy of your original packing slip, invoice, or other proof of purchase date. Any unit under warranty should be shipped prepaid to the SPI factory. Warranty repairs will take approximately two weeks.

If your unit is out of warranty, call Customer Service at 909-664-9986 for a Return Material Authorization (RMA) and proper shipping instructions and address. SPI will quote repair charges necessary to bring your unit up to factory standards.

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