WENNER 4-POINT SOIL RESISTIVITY TEST
9-28-11 REV 1.1

Goal: To test the conductivity of the soil in anticipation of installing a grounding system. This method is used for depth sounding the resistivity of the soil using 2 current electrodes and 2 potential electrodes.

Background: The test is performed in the area where the anticipated grounding system is to be installed.

The instrument will display only ΩM even though 'feet' is inputted.
Distance 'A' = distance between the electrodes in (feet).
Electrode depth (B) = 1/20 of spacing (A)
Distance 'B' = depth of electrode in feet.
ex. 1/20 of 10 feet is 10 / 20 = 0.5ft or 6 inches.
To change measurements to feet:
1. Turn selector switch to SETUP.
2. Press Display button.
3. Use ∧ to toggle between m and ft

Consider the test area as a box, testing each side and the diagonal. (5 readings minimum for an accurate test)

The result of the average of the 5 or more readings will be plugged into the formula below. The instrument will compute for each test.

The instrument need not be as sensitive as the one used for the Schlumberger test.

Instruments: All 4 pole ground resistance testers.
Note: Use selector switch settings on appropriate instruments.

STEPS below are for the 6470, 6470B, 6471, and 6472:

STEP 1. Set up the instrument by first turning the selector switch to 'ρ'

STEP 2. Press the Hz/Options key twice and using the >
Select ρW for Wenner method.
Press 'Display' button to accept.
Press the yellow 2nd key, then the Hz/Options
  Distance key and use the < , > keys to indicate the
  distance between electrodes.
   (feet or meters already selected in 'Setup')
Press 'Display' key to accept.

STEP 3. With box laid out reflecting the test area, install
electrodes in order with connecting wires and test one
side by pressing the START/ STOP button down until
the measurement stabilizes.
Press it again to stop the test.
Record the measurement.
Repeat on each side and diagonal.

Note: The 6400 series of instruments has a memory feature.

Pressing the MEM button twice saves the data in memory under
sequential OBJECT and TEST number. Multiple readings can
be saved under the same object and test number.