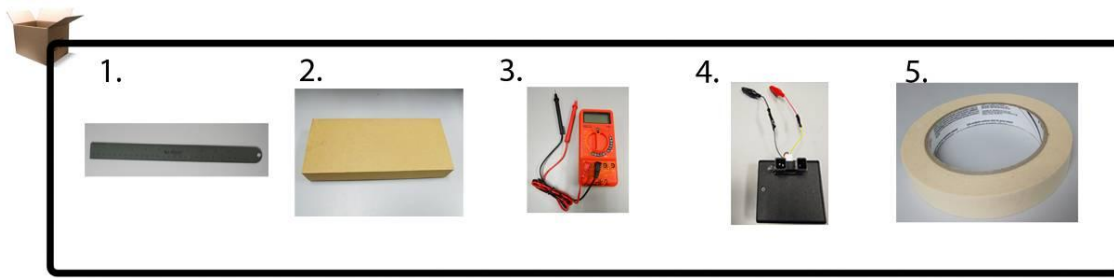


Catching the Perfect SAR Waves: “Radar” System Calibration

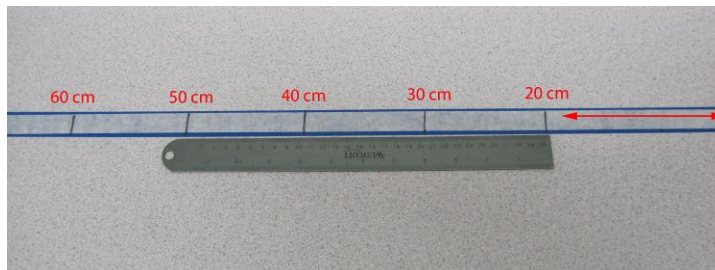


1. Standard Ruler
2. Small Box or Indoor wall
3. Multimeter
4. Sharp® GP2Y0A02YK0F Sensor
5. Masking Tape

Note: The GP2Y0A02YK0F infrared takes a continuous distance reading and returns a corresponding analog voltage with a range 20 cm to 150 cm.

1. Measuring Tape Setup

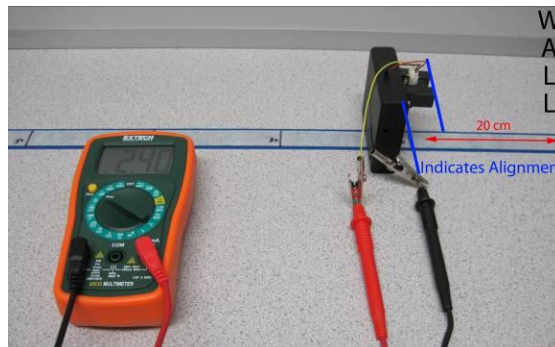
- a. Choose a relatively flat surface.
- b. Place 170 cm of masking tape on the surface.
- c. Using a ruler and marker, label 10 cm apart starting at 20 cm and ending at 150.



2. Sensor and Multimeter Setup

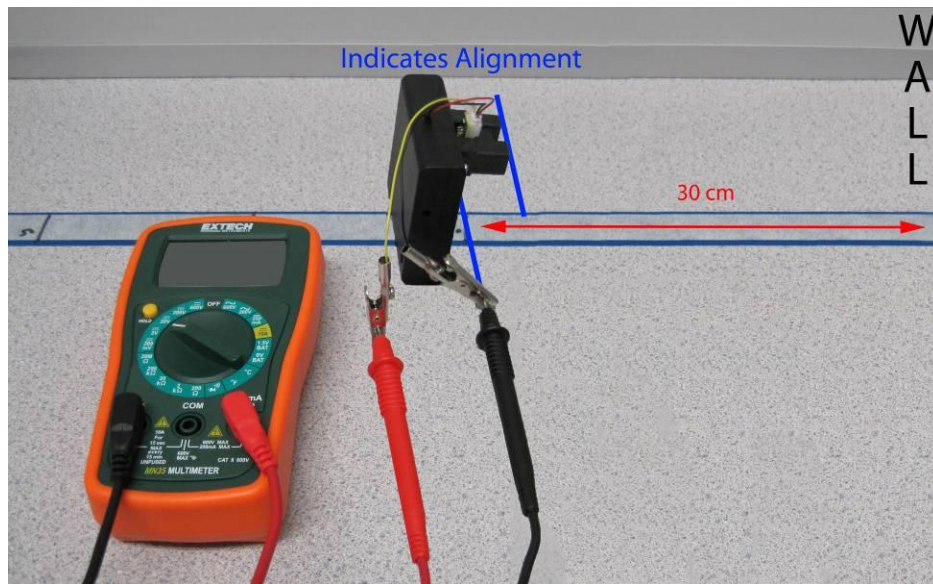
- a. Place the front of the sensor’s light emitter/detector at 20 cm.
- b. Connect a multimeter to read analog voltages (set at 20 V).
- c. Turn on your “radar” system unit and record voltage and distance using the

Mathematical Model handout.



3. Sensor Relocation

- Shift the front of the sensor's light emitter/detector to 30 cm.
- Record voltage and distance.
- Keep shifting sensor back 10 cm and record voltage and distance until it reaches 150 cm.



Alternative Calibration using Box and Measuring Tape Placement

