

Background Information

(Gamma) exposure-rate surveys may be performed upon entering an area where a radiological incident has occurred. In addition, radiation surveys of DOT shipments of radiological material can verify package data. Remember, this detector only detects and quantifies gamma exposure fields.

Equipment

- A. Calibrated Survey Meter (Check Calibration Sticker)
- B. Scintillation Detector (2) and cable
- C. Check Source (^{137}Cs)
- D. Instrument Check Sheet

Operational Check/Calibration Verification

1. Set up the exposure-rate monitor:
 - a. Remove the survey meter, cable, and scintillator detector from the case,
 - b. Connect the cable to the detector and survey meter,
 - c. Remove two "D" cell batteries from the case and properly install them in the survey meter noting the polarity markings,
 - d. Set the survey meter switches to AUD – "OFF", "S", and "2".
2. Source Check:
 1. Turn the survey meter main switch to "Ratemeter". After the self-diagnostics check is completed, a background measurement can be taken.
 2. Check the ambient background value. Do this by observing the LCD screen for about 1 minute. It is normal to see random values from 8 to 40 μ R/hr. Note the average value as your **Background** measurement. Record the reading on the sheet.
 3. Using the appropriate check source, check meter readings when

the source is in contact with the detector. Open the hinged door and place the scintillator detector face directly against the source. Record the reading on the sheet. Readings within $\pm 20\%$ will be accepted as verifying the instrument response.

4. Tag for repair and place out of service all instruments not meeting the criteria.