FEATUERS:
- Portable
- 61 cm (24 in.) Wide Opening
- Plastic Scintillator Side Detectors
- Sets Up In Minutes
- Easy to Operate
- Wheeled Transport Case
- Meets FEMA-REP-21
- Excellent means for detecting surface contamination

The Model 52-1 Portal Monitor is used for Beta/Gamma personnel contamination monitoring and meets the FEMA standard for Emergency Response Portal Monitoring (FEMA-REP-21). It is designed to be disassembled for ease of transportation and storage, and can be set up in five minutes or less without any tools.

The non-volatile parameters are preset at the factory to detect a 1.0 μCi/137Cs source in a 10 μR/hr background field. The electronics are microprocessor-based for ease of setup and reliability. Status LEDs indicate count-cycle status. Audible signals accompany the LEDs for additional indication. Detector counts, background, and all parameters may be viewed on the Liquid Crystal Display (LCD). All setup is accomplished by way of pushbuttons located below the LCD.

These portal monitors can be operated in a walk-through basis with a quick scan occurring while a person is positioned within the portal. In this mode, checking is performed every 200 milliseconds while the portal is occupied, 600 milliseconds before and 600 milliseconds after the portal is occupied. The portal monitor can also monitor in a stop-and-count mode, allowing for a more sensitive scan. In stop-and-count mode, the fixed count time may be set from 1 to 20 seconds.

These instruments have automatic background update and dynamic alarm setting capabilities. On startup, the instrument will take a background count and calculate alarm levels for each detector. Self-diagnostic routines check the background count and warn if the background becomes either too high or too low.

Alarms are calculated with a user-adjustable sigma parameter and the current background count. During setup, the user can also specify individual alarms only, sum alarm only, or both individual and sum alarm. The sum alarm groups upper detectors and lower detectors.

Model 52-1 is able to operate from 85-250 Vac 50/60Hz without a voltage selector switch. They may also be operated from three “D” cell batteries. Battery lifetime is approximately 24 hours.
**Model 52-1**  
**Personnel Portal Monitor**

**SPECIFICATIONS:**

**INDICATED USE:** Portable personnel monitoring (primarily gamma sensitive) is designed for ease of transport, can be assembled or disassembled in less than five minutes, and includes a carrying case.

**SENSITIVITY:** This instrument will detect the beta gamma emissions from a 1.0 μCi 137Cs source when it is located at mid-frame of the portal monitor in a 10 μR/hr background (per the suggested standard in FEMA report "Contamination Monitoring Standard for a Portal Monitor Used for Emergency Response", Sept 1992).

**THRESHOLD:** -4 mV

**DISPLAY:** two line x 20 character LCD shows background rates from all detectors, and sigma values above background

**COUNT TIME:** adjustable from 0-20 seconds (0 second setting is for walk-through mode)

**LED INDICATORS**
- **ENTER/CHECKING:** (green LED) indicates system is ready for use. Flashing LED indicates a count is in progress.
- **INCOMPLETE/UPDATING:** (amber LED) indicates the user has stepped out of the portal before counting was completed or that an update is in progress.
- **ALARM:** indicated by red LED and audible signal (greater than 60 dB at 61 cm [24 in.])
- **FAILURE:** (red LED) indicates a high or low background

**INFRARED SENSOR:** senses portal occupancy

**PARAMETERS:** all parameters are stored in non-volatile memory

**DETECTORS:** 4 ea. 2753 cm³ (168 in³), plastic scintillators

**OUTPUT:** RS-232 and relay output connectors located on the bottom of the electronics chassis

**TEMPERATURE RANGE:** -20 to 50 °C (-4 to 122 °F)

**BATTERY LIFE:** typically 24 hours in a non-alarm condition

**CONSTRUCTION:** aluminum housing with beige powder coat paint

**WEATHER PROTECTION:** Crystal clear polypropylene tubing is provided to sleeve over monitor whenever protection against wet weather conditions is desired.

**PORTAL DIMENSIONS:** 211 x 71 x 45 cm (83 x 28 x 17.5 in.) (H x W x D)

**PORTAL INSIDE DIMENSIONS:** 206 x 61 cm (81 x 24 in.) (H x W)

**TRANSPORT CASE:** high-density plastic with wheels and dual padded handles

**TRANSPORT CASE DIMENSIONS:** 122 x 61 x 30.5 cm (48 x 24 x 12 in.) (H x W x D)

**WEIGHT:** 32 kg (70 lb)

**SHIPPING WEIGHT:** 45 kg (100 lb)