Model 450B Ion Chamber Survey Meter:

- Auto ranging, auto zeroing
- Light weight, easy to use
- Freeze/Integrate functions
- Display flash alarm set point
- Rugged, moisture proof
- Available in SI units

Description

The Model 450B is an innovative radiation survey instrument. It is based on the proven characteristics of the ion chamber radiation detector married to the latest CMOS microprocessor technology and liquid crystal displays.

The only controls present on the basic instrument are an ON/OFF button and a MODE button. No other controls are necessary because the instrument is both auto-ranging and auto-zeroing.

The display is unique, offering both a 100 element analog bargraph that is fully labelled with scale digits and a 2 1/2 digit digital display that also provides the proper units of measurement. The bar graph is provided with a faster time constant than the digital display making the instrument ideal for surveys.

The top surface of the instrument has an overlay which covers both of the display switches, completely sealing this surface. The instrument is fully gasketed to make it moisture proof. The gasket also serves to shock-mount the printed circuit boards, liquid crystal display, and ion chamber assembly. The instrument will remain operational after a drop from a height of 3 ft. onto a concrete floor.

The variables FREEZE, INTEGRATE: R or Sv are factory set when the Model 450B is purchased without a communicator. The customer can choose settings.

The FREEZE button is a special feature that permits the instrument to remember and indicate the highest dose rate from the time the instrument is placed in the freeze mode, This feature permits placing an instrument in a potentially high radiation area and determining the maximum value the instrument sees.

The Integrate Mode operates continuously 30 seconds after the instrument has been turned on. Integration is performed even if the instrument is displaying in mR/h or R/h.

Calibration is accomplished by an infra-red two-way communication, Model 450-1A. The communicator uses a RS-232 port. The two-way communicator can be used to interrogate the instrument for calibration information, perform a calibration of the instrument, change between the integrate display mode or the FREEZE display mode, or change units (English-Si).

The IR Communicator also allows the use of the Model 450B as a remote detector.

To guard against battery-related instrument failure, a "Low Battery" condition is indicated continuously on the face of the display when a battery change is required. A 400 mg/cm2 thick bakelite slide is provided to protect the Mylar window and serve as an equilibrium shield. The bakelite slide is positioned to the lower part of the case when using the mylar window.