innovation in Radiation Monitor design

Special Purpose Multi-Channel Analyzers

Violinist III

Emergency response plutonium surface contamination monitor (shown assembled)

Violinist III Kit

Packed in convenient carrying case

Description

TSA's Violinist III is a full featured, multi-channel analyzer in a portable, battery powered package. The 256 channel Violinist III can be used with a variety of external probes. Peak strip, background subtract, and search/find features are included.

The Violinist III instrument is very similar to TSA's multi-channel analyzer model MCA-465, with the primary difference being the software and the use of an external FIDLER Detector (Alpha Spectra). The Violinist III has an internal high voltage power supply capable of providing up to +1,600 Vdc for an external detector.

The Violinist III may be purchased separately, or as part of the Violinist III Kit. The kit includes the Violinist III instrument, a five inch FIDLER Detector, tripod stand, and a foam lined carrying case.

OPERATION: User interface is provided via eight membrane switches on the front panel of the instrument. These switches provide operator access to all functions of the Violinist III through a series of menus. The front panel set up can be disabled by an internal dip switch.

Four regions of interest may be programmed using the front panel switches. Up to fourteen spectra may be stored in nonvolatile memory and recalled for viewing or downloaded to a PC via RS-232 interface. These spectra are labeled as either background or data by the operator and are date and time stamped from the internal clock/calendar. The large area backlit LCD presents adequate detail to analyze the spectral data and facilitates setting up the instrument in the field.

The amplifier gain may be "fine tuned" using the front panel switches and an external radioactive source. The operator can adjust the gain to ensure the energy peak is in the proper channel. The PC communications package allows the instrument to be set up from a PC using the RS-232 port. Spectra may also be downloaded and converted for use with third party programs.

Specifications

Violinist III SPECIFICATIONS

- DETECTORS: Designed specifically for use with a FIDLER Detector.
- DISPLAY: LCD, 2.5"h x 4.8"w (6 x 12cm) 128 x 256 pixel, with backlight
- COMMUNICATIONS: RS-232 communications capability
- DATA STORAGE: 14 spectra can be stored in nonvolatile memory.
- POWER REQUIREMENTS: Eight "D"size alkaline cells provide 12 hours of operation time
- DIMENSIONS: 6.2"h x 9.4"w x 4.9"d (16 x 24 x 12cm)
- WEIGHT: 7.5 lb (3.4kg) instrument only, including batteries
- ENVIRONMENTAL: 32° to 100°F (0° to 38°C)
- OPTIONAL COMPONENTS: Carrying case, detectors (internal and external), external probe adapters.

Applications

The Violinist III is designed to calculate surface contamination levels of ^{241}Am (americium) and ^{239}Pu (plutonium) in $\mu Ci/m^2$. A PC program is available to monitor and control the instrument.

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