

Description

TSA's Violinist IV contains a full-featured, multichannel analyzer (MCA) with a portable, battery powered package coupled to an external Field Instrument for Detection of Low Energy Radiation (FIDLER) NaI detector (Alpha Spectra). The FIDLER probe is effective in detecting 10 keV to 100 keV X-rays and gammas. It is ineffective in detecting photons of greater energy. This is a distinct advantage as it greatly reduces the interference from higher energy gammas and X-rays which is present in thicker detectors. The two regions of the spectrum that are of particular interest for quantifying ²⁴¹Am (americium) and ²³⁹Pu (plutonium) are the X-rays between 10-20 keV and between 63-100 keV. In particular, the 16 keV and 60 keV peaks of the spectrum are used by the analysis software.

The **Auto Cycle** option will cause the software to continually cycle, automatically resetting the MCA at the end of each count cycle. This can be useful in conjunction with the auto file save option if multiple readings are desired at the same location.

The **Auto File Save** feature causes the program to automatically save all of the system's data into a text file at the end of a count cycle. The text file contains all of the calculated values, configuration settings and the spectrum's channels with current counts. The files are named based upon the time and date at the end of a count cycle. They are automatically written to a disk directory named SavedData.



DISCONTINUED

Violinist IV

Emergency response plutonium surface contamination monitor

Specifications

Violinist IV SPECIFICATIONS

- DETECTORS: Designed specifically for use with a 14 pin tube base FIDLER Detector.
- COMPUTER: Micro PC or ruggedized notebook
- COMMUNICATIONS: USB communications capability
- DATA STORAGE: Thousands of spectra can be stored on the hard drive (dependent on drive size).
- 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)

Applications

The Violinist IV is designed to calculate surface contamination levels of ²⁴¹Am (americium) and ²³⁹Pu (plutonium) in $\mu\text{Ci}/\text{m}^2$.