

# EML

Environmental Measurements Laboratory

"A Federal Resource"

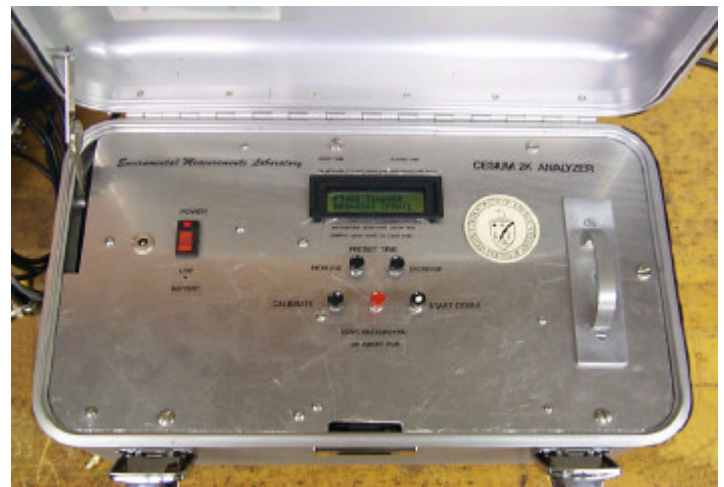
## CESIUM 2K ANALYZER



The Cesium 2k (Cs2k) Analyzer has been specifically designed to identify and count the 662 keV gamma-rays that are emitted from cesium specific Empore™ Rad disks. These disks, developed jointly by 3M Industrial Products and Argonne National Laboratories, concentrate the cesium from aqueous liquids flowing through them and offer an easier alternative to chemical preparation methods. The Cesium 2k Analyzer counts the gross activity from these disks, subtracts out the previously collected background in proper proportion, and shows the net activity on its digital display. It is configured as a 32 pound portable field instrument that will operate for 56 hours after recharging. The unit uses an on-board cesium source with an automatic tracking routine to establish a calibration before use at a location, and thus allows the instrument to operate over a wide range of environmental temperatures and conditions. While the design is based on a micro-computer, which makes it easy to operate, the cost was kept below \$2,000, rather than the \$10,000 to \$12,000 typical price using the more conventional multichannel analyzer and standard computer approach.

### Features

- ▲ Custom instrument for counting Cesium Rad Disks
- ▲ Broad measurement range: 50 pCi to over 400,000 pCi
- ▲ Selectable count times of 1 - 1000 minutes
- ▲ Live display - shows counting in progress
- ▲ Automatic calibration using on-board source and peak search routine
- ▲ Display shows: preset and elapsed times, gross count, net count and counts per minute
- ▲ Background subtraction automatically proportioned to sample time when calculating net count
- ▲ Computer driven, using modifiable Basic code, allows for operational changes
- ▲ Detector surrounded with lead/acid batteries to enhance shielding by 18%
- ▲ Rechargeable battery operation supplies 56 hours of operation per charge



- ▲ Operating temperature - conservatively, from 30 to 100°F
- ▲ Portable, rugged field grade construction, 16 x 9 x 8 inches, 32 lbs, with unit cost under \$2000
- ▲ Can be modified to measure a variety of other mono-energetic gamma rays

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