

## Technical Associates - Portable Liquid Scintillation Counter



### GENERAL DESCRIPTION:

The Portable Liquid Scintillation Counting System accurately quantitatively measures Carbon-14, Tritium and most other radioactive materials. Gamma ray counting is optional. PC interface and hard copy printer are optional. The Portable Liquid Scintillation Counter has a 3 Vial capacity for faster thru-put and easy comparison sample to calibration standard or to background. This is an all-in-one unit thus enhancing portability. End Users: state and federal health agencies, nuclear power plants, small labs, us military drinking water quality units, citizen groups, municipal utilities.



### TECHNICAL DESCRIPTION:

Using the most sensitive method of detecting and quantitating beta emitting isotopes mixing the sample with liquid scintillation fluor and counting each individual scintillation event with a photomultiplier counter. An energy analyzer further selects the pulses and delivers the true signal. Optionally, gamma ray counting is achieved by inserting and optically coupling an NaI(Tl) scintillation well crystal on the PM tube. Scintillation counts which are detected by PM tubes are processed by a fully adjustable single channel analyzer which is centered on the energy peak of the isotope being measured.

### CONTACT INFORMATION

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818-883-7043

### COST

- \$11,500/system
- \$1/analysis

### Tier Selection

Final tier assignment is based on overall product score.

- Top Tier   ● Second Tier   ● Third Tier  
● Fourth Tier   ● Bottom Tier

#### RANKINGS

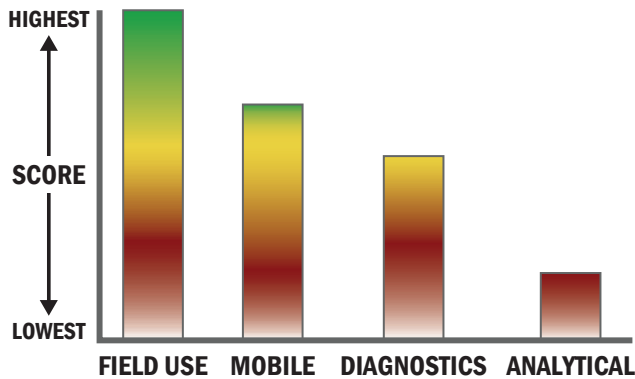
	Biological	Chemical	Radiological
FIELD USE System	N/A	N/A	
MOBILE Laboratory	N/A	N/A	
DIAGNOSTIC Laboratory	N/A	N/A	
ANALYTICAL Laboratory	N/A	N/A	

### Survey Source

Vendor and Internet Supplied Information

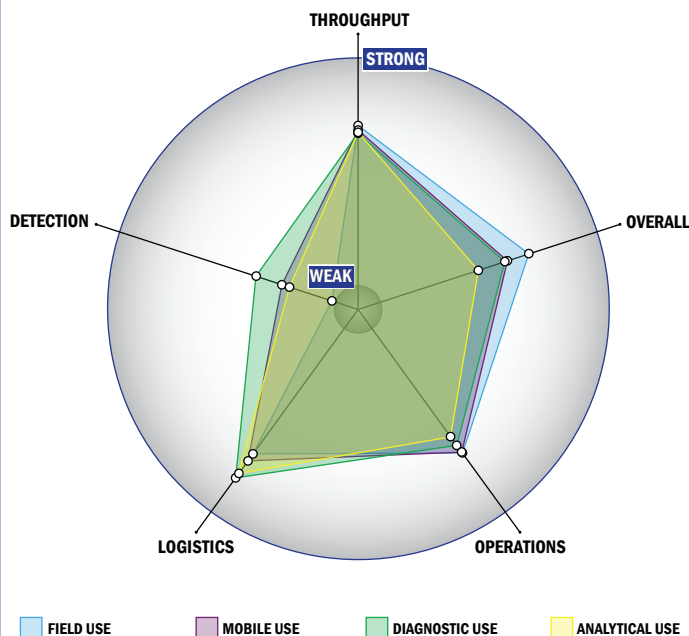
## Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



## Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



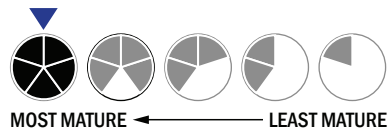
## Evaluation Criteria

### Throughput:

- Between 2 and 15 minutes for detection
- Multiple samples, multiple tests/sample per run
- 349-96 samples every 2 hours
- The system or device is currently semi-automated
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 1 component
- Less than 5 minutes is required for set-up
- 3-5 steps are required for detection

### Logistics:

- An afternoon of training and some technical skills required
- Approximately the size of a carry-on luggage suitcase
- Between 5 and 25 kg
- Wired connections are available
- System or device uses batteries
- 4-8 hours battery life



### Operations:

- Can be used from 4 °C to 41 °C
- Components must be stored at room temperature (27 °C)
- Performance is not influenced by relative humidity
- Between 1 to 3 years shelf life
- Greater than 10 years expected life
- Results can be viewed in real-time
- The system is not capable of autonomy
- The system hardware is open and available for modification

### Detection:

- Possible the system could receive 510K clearance, no current efforts at this time
- Possible the system could receive FDA approval, no current efforts at this time
- Greater than 250 µL
- Only count rate
- System is used for surveying