PORTABLE LIQUID SCINTILLATION COUNTING SYSTEM

Model # SSS-12P & SSS-22P

FEATURES:

•MEASURES ALL BETA EMITTERS AND LOW ENERGY GAMMA EMITTERS
•DUAL PM TUBE DESIGN – ***SSS-22P***
•SINGLE PM TUBE DESIGN – ***SSS-12P***
•SETTABLE WINDOW CAN BE SET FOR ANY ISOTOPE

GAMMA BACKGROUND RADIATION REJECTION FEATURES:

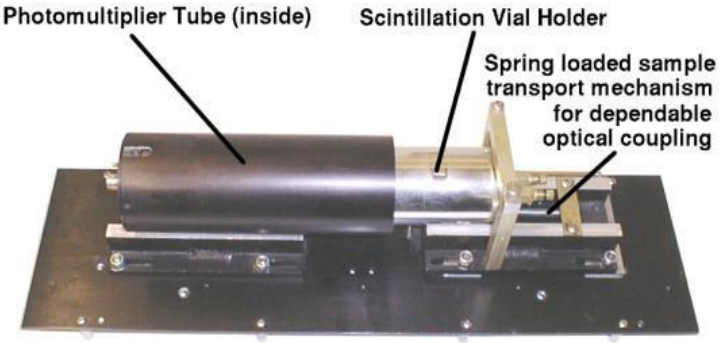
•Energy analyzer window rejects pulses with energies outside the window setting
•Optional Lead shielding around detector

COUNTING ASSEMBLY FEATURES:

•Excellent repeatability
•Fully light tight system
•Fail safe interlock to protect PM tubes
•High transmission optical coupling to PM tube

MOST PM TUBE AND PRE-AMP NOISE IS ELIMINATED BY THESE FEATURES:

•High quality PM tubes and preamps
•Fully adjustable energy analyzer window rejects low energy pulses



LAM-10-DS electronics, Detector box, Inside view Model DET-S12P

APPLICATION:

The *SSS-12P* Manual Liquid Scintillation Counting System accurately quantitatively measures Carbon-14, Tritium and most other radioactive materials. But for measuring low levels of Tritium and C-14, Model # *SSS-22P* is recommended. Optionally, gamma ray counting is achieved by inserting and optically coupling an NaI(Tl) scintillation well crystal on the PM tube.

TECHNICAL ASSOCIATES

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PORTABLE LIQUID SCINTILLATION COUNTING SYSTEM

Model # SSS-12P & SSS-22P

SYSTEM DESCRIPTION

Measuring Principal: The most sensitive method of detecting and quantitating beta emitting isotopes is to intimately mix the sample with liquid scintillation fluor and count each individual scintillation event with a photomultplier counter. Followed by an energy analyzer which further selects the pulses and delivers the true signal. PC interface and hard copy printer are optional. Detection cell optically coupled to selected photomultiplier tube.

DATA ANALYSIS AND PRESENTATION

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. This deletes both higher energy pulses from background radiation and lower energy counts from the PM tube or circuit noise. The pulses are then fed to a digital scaler and optional digital printer. (Thus allowing long count times for measurement of very minute samples as well as completely eliminating artifacts caused by ratemeter time constants.) Optional interface to parallel/or serial printers or most scientific or personal computers or data stations.

SPECIFICATIONS:

- **C-14 Efficiency:** Typical 90%.
- **Count Times:** 1 sec. thru 99 sec. (1 sec. increments), and 1 min. thru 99 min. (in 1 min. increments).
- **Voltage:** 0-2000 Volts - fully user settable.
- **Readout:** Digital - 6 digit LCD, (LED optional).
- **Outputs:** Standard: Serial pulse output

- **Optional:** pcmcia CARD DAQ-2 card for portable pc.
- **Power:** 3 D Cells + AC adapter
- **Physical Spec:**

MODEL SUB-ASSEMBLY	SSS-12P	SSS-22P	SSS-12P/SSS-22P DETECTOR
MODEL	**PRS-5**	**LAM-10DS**	**DT-S-12P**
Dimensions:	**9” L X 4” W X 6” H**	**10” L X 7” W X 7” H**	**22” L X 16” W X 6” H**
Weight:	2.3 Kg (5lbs) Including batteries	3 Kg (7 lbs)	6.8 Kg (15 lbs)
Shipping Weight:	3 Kg	4 Kg	9 Kg

- **Sample Size:** Accepts standard Liquid Scintillation vials up to 1.1" diam. x 2-1/2" H.
- **Scintillation Fluors:** Accepts most scintillation fluors.

OPTIONS

A. Digital Printer Model MPM-40DT - Battery operated printer with date & time stamp.
B. Set of 2 calibrated liquid standards, C-14 and H-3. User must mix TA solutions with liquid scintillant
C. Optional Interfaces and Outputs: Clear instructions with all interfaces.
D. Data logging software, Model # WIN-W
E. Data acquisition card with driver, Model # DAQ-2

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