

FIRST RESPONDER'S RADIATION DETECTION EMERGENCY KIT

Model ~ TBM-6SPE-D

FEATURES:

- PORTABLE
- DETECTS SURFACE CONTAMINATION: ALPHA, ALPHA-BETA, GAMMA, LOW ENERGY, & NEUTRONS
- FIVE (5) EXTERNAL SEPARATE DETECTORS
- RECHARGEABLE BATTERIES AND CHARGER

TBM-3D ELECTRONICS

- 8 DIGITAL READOUT
- **OPTIONS:**
 - ALARM CIRCUIT: VISUAL AND AUDIO ALARM
 - USB PORT / RS-232 SERIAL CIRCUIT
 - OTHER CONNECTORS - MHV etc
- LIGHTWEIGHT – SELF-CONTAINED BRIEFCASE
- FAVORED BY FIRST RESPONDERS
- IP67; CE MARK



TBM-6SPE-D with Electronics



TBM-6SPE-D uses
TBM-3D
Digital Electronics

DESCRIPTION:

Five probes:

- ✓ Alpha (PAS-8);
- ✓ Alpha-Beta (P15)
- ✓ Low energy Gamma (PGS-3T),
- ✓ All Neutrons (PNS-20),
- ✓ Gamma Search Probe (PGS-3L).

The **TBM-6SPE-D** features TBM-3D digital electronics and the (5) probes described above in a self-contained field ready briefcase.

Battery charger and cords separate from briefcase.

This system is half the weight of other systems.



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Divisions of  US NUCLEAR CORP
Ticker UCLE

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Sample of Detectors TBM-6SPE-D:

Detectors:	P-15	PAS-8	PGS-3T	PGS-3L	PNS-20
Detects:	Alpha-Beta	Alpha	Low Energy Gamma.	Gamma Search Probe.	Fast & Slow Neutrons
Efficiency:	5 KeV X-Rays and above	Alphas above 5 MeV 20-40%		1,000,000 cpm/mR/hr	
I^{125}		—	87%	2" dia. NaI	87%
Co^{57}		—	78%	2" dia. NaI	78%
Tc^{99m}		—	75%	2" dia. NaI	75%
Cs^{137}		—	30%	2" dia. NaI	30%

External Detector Description:

P-15: Alpha, Beta, Gamma Probe (GM)

- 1.5" mica window diameter, 1.5 mg/cm² pancake GM tube.
- Background is normally 50 to 60 counts per minute.
- Extremely sensitive to Alphas with sufficient energy to penetrate window and Betas > 50 KeV.
- Sees 5 KeV X-Rays and above.

PAS-8: Alpha Scintillation Probe

- 1.5" diameter x 0.8 mg/cm² window.
- For use wherever a high efficiency, low background Alpha detector is indicated.

PGS-3T: Low Energy Gamma Scintillation Probe

- 1" diameter x 1mm NaI(Tl) thin crystal, thin window protected by a 5 mil. Aluminum window.
- Sees X-rays and Gammas > 10KeV and Betas > 100KeV.

PGS-3L: Gamma Scintillation Search Probe utilizing a highly gamma sensitive crystal (NaI(Tl)).

- 2" long x 2" diameter hermetically sealed crystal optically coupled to photomultiplier tube.
- Gamma sensitivity is 100 times greater than GM tubes.
- Will also detect X-rays > 25KeV.
- Sensitivity of the PGS-3L is in the order of 1,000,000 cpm per mR/hr.

PNS-20: Fast & Slow Neutron Scintillation Probe. The n-p reaction is used to measure energy deposited by Fast Neutrons.

- Thermal Neutrons are detected by means of the Boron n-Alpha reaction.
- Probe delivers approximately 20 cpm per neutron/cm²/second and requires a 900-volt supply.
- 8" long x 1.5" in diameter.
- It is completely insensitive to Gammas in fields below 10 R/hr.



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SPECIFICATIONS:

ELECTRONICS: TBM-6SPE-D with TBM-3D DIGITAL ELECTRONICS – 5 External Probes

Handle

Detector Cables

DIGITAL Read Out: 2 Separate Scale Factors for Rate & Total
8 Digit LCD Display with OPTIONAL Backlight
2" Display Screen
0.1-99 Sec Time Constant for Ratemeter
Ideal for Long Count - Up to 24 Hours or More

Engineering Units: cps, or User Settable other units

Power: High Voltage 400v-1200v DC

Batteries: Rechargeable Batteries and Charger with cords

Battery Life: 100 hrs. Normal Operation

Calibration: User Digital Adjust

DIMENSIONS TBM-3D:

Electronics: 4" W x 6-1/2" L x 3" D. (10.16 m 16.5 cm x 7.6 cm).

Tbm-6SPE-D

Carrying Case: **O Ring, Water-Tight, Crush Proof, Dust Proof:**
21" W x 16" L x 9" D (53.3 cm x 40.6 cm x 22.8 cm)

TOTAL WEIGHT TBM-6SPE-D: 10 lbs – Case, Electronics & Detectors.

Options:

Alarm circuit with red LED and audio alarm

USB Port / RS-232 serial circuit

Other connectors - MHV etc



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