# First Responder's Radiation Detection Emergency Kit Model: TBM-6SPE-D

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	
l <sup>125</sup>		-	87%	2" dia. <u>Nal</u>	87%
Co <sup>57</sup>		-	78%	2" dia. Nal	78%
Tc <sup>99m</sup>		-	75%	2" dia. <u>Nal</u>	75%
Cs <sup>137</sup>		-	30%	2" dia. <u>Nal</u>	30%

### External Detector Description:

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

- » 1.5" mica window diameter, 1.5 mg/cm 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/cm<sup>2</sup> window.
- » For use wherever a high efficiency, low background Alpha detector is indicated.

#### PGS-3T: Low Energy Gamma Scintillation Probe

- » 1" diameter x 1mm Nal(TI) 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 (Nal(TI)).

- » 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.
- $\scriptstyle *$  Sensitivity of the PGS-3L is in the order of 1,000,000 cpm per mR/hr.

#### PNS-20: Fast and 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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