

Radiological Detection System



Ludlum's **Radiological Detection System** is the approved replacement to the AN/PDR-77. The Base Unit, which detects Beta and Gamma radiation, acts as a common interface for six probes that can be used for specialized radiation detection applications. It was developed after the joint forces faced equipment interoperability challenges during Operation Tomadachi (the cleanup after the nuclear disaster in Fukushima, Japan).

- One of the system's defining features is its smart probe technology.
- Any RDS probe can be connected to any Base Unit without recalibration.
- 45 hours of stored data easily transferable to a computer for further analysis.
- The Base Unit is ergonomically designed and can be used with protective gloves.
- Stealth mode and headphone functionality for use in combat situations.
- Known as the AN/PDR-83, and also available through NATO Stock Numbers.

FEATURES

- Common Base Unit Interface
- 6 Individual Probes
- Smart Probe Technology
- 45 Hours of Data Storage

Base Unit

NSN: 6665-01-671-4539

Weight	1.66 lbs (0.75 kg)
Dimensions	8.3" x 3.45" x 2.2" (21.1 x 8.8 x 5.7 cm)
Power	DC, operates on AA-size batteries
Detection	Gamma & Beta
Dose Rate Units of Measurement	Count Rate - cpm, cps. Dose/Exposure Rate - mrad/hr, μ Gy/hr, mrem/hr, μ Sv/hr, mR/hr Total Dose/Exposure - mRad, μ Gy, mrem, μ Sv, mR
Alarms	Audible and Visual - user specified
Headset Audio	Audio jack for headset operations
Data Logging	Records detection readings, date/time, and location
Data Storage	45+ hours of data storage
Detection	Gamma/x-ray radiation - 0.1 μ Gy/hr - 100+ Gy/hr Photon detection - 60 keV - 3 MeV Beta detection - 200 keV - 3 MeV Neutron & Alpha detection with external probe
Typical Sensitivity	2.7 cps/ μ Gy/hr



Alpha-Beta Probe

NSN: 6665-01-671-4479

Weight	1.9 lbs. (0.86 kg)
Dimensions	11.6" x 3.7" x 3.8" (31.7 x 9.4 x 9.6 cm)
Power	Powered by the base unit
Dose Rate Units	Count Rate - cpm, cps. Count Rate per Unit Area - cpm/cm ² , cps/cm ²
Detection	Alpha range - 3 MeV - 8 MeV Beta range - 100 keV - 5 MeV



Sensitive Gamma Probe

NSN: 6665-01-671-4250

Weight	1.27 lb. (0.58 kg)
Dimensions	12.49" x 1.95" x 1.65" (32 x 5 x 4 cm)
Power	Powered by the base unit
Dose Rate Units	Count Rate - cpm, cps. Exposure Rate - μ R/hr
Detection	Gamma range - 50-5000 μ R/hr Gamma energy range - 50 keV - 1.5 MeV
Typical Sensitivity	500 cps/ μ Gy/hr



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ABG Pancake Probe

NSN: 6150-01-671-4413

Weight 1 lb. (0.47 kg)
 Dimensions 5.4" x 2.7" x 4.7" (14 x 7 x 12 cm)
 Power Powered by the base unit
 Dose Rate Units Count Rate - cpm, cps
 Count Rate per Unit Area - cpm/cm², cps/cm²
 Detection Beta range - 100 keV - 5 MeV



Beta-Photon Probe

NSN: 6665-01-671-4352

Weight 0.78 lb. (0.35 kg)
 Dimensions 9.3" x 1.2" x 1.6" (24 x 3 x 4 cm)
 Power Powered by the base unit
 Dose Rate Units Count Rate - cpm, cps
 Dose/Exposure Rate - mRad/hr, μGy/hr, mRem/hr, μSv/hr, mR/hr
 Detection Total Dose/Exposure - mRad, μGy, mRem, μSv
 Photon range - 60 keV - 3 MeV
 Beta range - 200 keV - 3 MeV
 Gamma/x-ray - 0.1 μGy/hr to 100 Gy/hr
 Typical Sensitivity 2.7 cps/μGy/hr



Neutron Probe

NSN: 6665-01-671-4376

Weight 11.8 lb. (5.33 kg)
 Dimensions 8.3" x 8.3" x 12.4" (21 x 21 x 32 cm)
 Power Powered by the base unit
 Dose Rate Units Count Rate - cpm, cps
 Dose/Exposure Rate - mRad/hr, μGy/hr, mrem/hr, μSv/hr
 Detection Total Dose/Exposure - mRad, μGy, mrem, μSv
 Neutron energy range - thermal (0.025 eV) - 15 MeV
 Typical Sensitivity 50 cpm/μSv/hr



FIDLER Probe

NSN: 6665-01-671-4239

Weight 7.9 lb. (3.6 kg)
 Dimensions 11.6" x 7.6" x 17.2 - 26.7" (32 x 19 x 44-68 cm)
 Power Powered by the base unit
 Dose Rate Units Count Rate - cpm, cps
 Detection Selective Detection
 - 13-18 keV (L x-rays)
 - 59-60 keV (Am-241)
 - 143-220 keV (U-235)
 - 13-220 keV (gamma)



Telescoping Probe Handle

NSN: 5120-01-672-9428

Weight 2.8 lbs. (1.27 kg)
 Dimensions 39.8" x 1.4" (101 cm x 4 cm)
 Extended: 127" x 1.4" (323 cm x 4 cm)

