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The power to make the right decisions about radiological materials in seconds

The Kromek D3S range of compact radiation detectors replaces Personal Radiation Detectors (PRD), Spectroscopic Personal Radiation Detectors (SPRD) and Radioisotope Identification Devices (RIID) with ONE device that fulfils all these functions.

D3S is a state-of-the art discreet wearable gamma-neutron detector which exceeds the RIID ANSI: it identifies 22 extra isotopes (42 in total), 4 times faster (3s in Search Mode), with 6 times lower false alarm rate (1 in 24 hours). The D3S is a powerful combination of two of Kromek's detection technologies; its Csl(Tl) gamma detector and non-³He thermal neutron detector. Originally developed for the US Government's DARPA program, over 10,000 detectors have been deployed wordwide.

Wearable and discreet

You can use it discreetly. Clip it on your belt or tuck it in your pocket. No one will realise you are using the D3S because it works via an Android smartphone app which transforms it into a highly capable detection device, either via Bluetooth or USB.

Two versions, easily upgradable

D3S is available in two versions: the PRD and ID. The PRD delivers effective radiation detection and preliminary identification, while D3S ID has extended identification capabilities comparable to other much larger radioisotope identification devices (RIID).

A simple upgrade to your licence key and you have access to the most complete radiation detection solution in a single device with two modes of operation: PRD and RIID.

Superior performance

Wearable hands-free use, fast detection, clear identification of isotopes and neutron source detection. Its high dose sensor capability enables detection of up to 1 Sv/h while its high sensitivity means it can rapidly identify low levels of radioactive material and possible shielded or concealed sources.

The device has a low false alarm rate for both wearable search and D3S ID's high sensitivity confirmation mode functions. Its reachback feature allows instant sharing of data for efficient adjudication, making it the perfect all-in-one radiation detection tool for all users.

Anyone can use it

Designed specifically for use by anyone, specialists and non-specialists alike. Requires minimal to no training - D3S ID is ready-to-go, out-of-the-box.



Applications include:

- Law Enforcement
- First Responders
- Customs and Border Patrol
- Airports
- Sea Ports
- Event Security
- Scrap Yards

Field proven:

- Extensively tested, characterized and used in the field via the DARPA Sigma Program
- 10,000+ detectors sold

Detector specification		
Detector type	Gamma and Neutron detection	
Gamma detector material	CsI(TI)	
Gamma detector volume	1 in ³ (16 cm ³)	
Gamma energy range	30 keV to 3 MeV	
Gamma sensitivity for Cs137	5 cps/μR/h (500 cps/μSv/h) Photo peak 1.2 cps/ μR/h (120 cps/μSv/h)	
Maximum throughput for gamma channel	10,000 cps	
Maximum dose rate	2.0 mR/h (20 $\mu Sv/h)$ at 662 keV (spectroscopic) 100 R/h (1 Sv/h) at 662 keV with high dose module	
Neutron detector material	Non- ³ He	
Neutron detector	9 cps in a 1 neutron per cm ² field	
Neutron detector gamma rejection	Better than 10 ⁻⁷ , meets ANSI N42.34 section 6.7	
Maximum throughput for neutron channel	5,000 cps	
Communications	Micro USB, Bluetooth®	
Operational battery life	12 hours, 24 hours with add-on battery pack	
Operational temperature range	-20°C to 50°C, meets ANSI N42.32 section 7.1, section 7.2, section 7.5	
Device size (excluding phone)	5.2" x 3.1" x 0.9" (132 mm x 80 mm x 23.5 mm)	
Device volume (excluding phone)	248 cm ³	
Humidity	Up to 93% RH ANSI N42.32 section 7.3	
Moisture/dust protection	IP53 as per ANSI N42.32 section 7.4	
D3S weight (excluding phone)	0.52 lbs (237 g)	
Battery	1450 mAh Lithium polymer	
Charging	Charging via USB or inductive charging	
External LEDs	Visual detector status	
Device status indicator	External LED	

Hardware tested to ensure compliance with the following standards

Vibration	ANSI N42.32 section 9.1
ESD immunity	ANSI N42.32 section 8.1
Radiated emissions	ANSI N42.32 section 8.4
Drop test	ANSI N42.32 section 9.2
Impact (microphonics)	ANSI N42.32 section 9.3
Software	
Graphic user interface	Android smartphone
Spectra storage	ANSI N42.42 compliant
Spectra sharing	Reachback Report

Isotope Identification	
Confirmation mode complies with	ANSI 42.34 within 30 seconds
Search mode	Isotope ID within 3 seconds
Isotope library and performance	42 isotopes – 22 more than ANSI N42.34 standard Discriminates between Medical, NORM, Industrial and SNM classes 69 unique signatures which accounts for shielding and mixed configurations
False Alarm Rate	Superior false alarm rejection (ANSI N42.32) for the gamma and neutron channels independently

Feature	D3S PRD	D3S ID
Gamma detector	\checkmark	\checkmark
Neutron detector	\checkmark	\checkmark
Voice annunciation upon detection	\checkmark	\checkmark
Alert classifications (NORM, Medical, Industrial, Special Nuclear Material)	\checkmark	\checkmark
Radionuclide library list	\checkmark	\checkmark
Search mode (real-time scan and identification, 1 Hz update rate)	\checkmark	\checkmark
High dose sensor up to 100 R/h (1 Sv/h)	\checkmark	\checkmark
Confirmation mode (scan time for identification of up to 5 minutes)	×	\checkmark
Reachback report (spectra and results sharing)	×	\checkmark
Historical alert view	×	\checkmark
Spectra storage in N42 file format	×	\checkmark
Field upgradeable to D3S ID	\checkmark	N/A

From PRD to RIID at the touch of a button

