



## Detective X ORTEC

ULTRA HIGH RESOLUTION HPGe  
RADIOISOTOPE IDENTIFICATION DEVICE

- ▶ LARGE HPGE CRYSTAL (65 MM X 50 MM)  
RAYS FROM RADIOACTIVE SOURCES
- ▶ PORTABLE - LIGHT WEIGHT, LONG BATTERY  
LIFE, «ONE-HAND» OPERATION WITH GPS  
LOCATION
- ▶ EXTREMELY RUGGED - DESIGNED FOR  
MILITARY USE
- ▶ SUPERIOR ALGORITHMS - EXCELLENT  
DETECTION AND ID CAPABILITY AND A MUCH  
BETTER FALSE ALARM RATE COMPARED TO  
OTHER SYSTEMS
- ▶ AUTO CALIBRATION

### MULTI-THREAT DETECTION

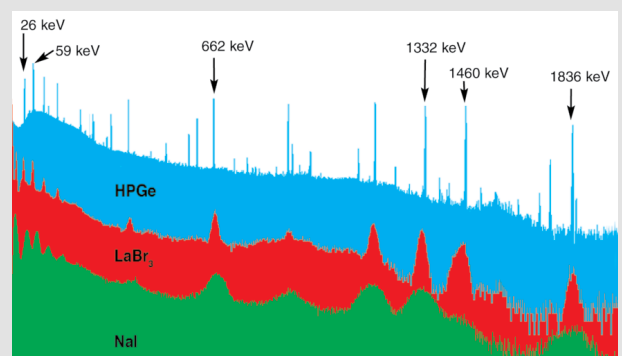
ORTEC's Detective products are widely known by federal agencies as the "Gold Standard" for interdiction of potential nuclear threats. The new Detective X is faster, lighter weight, and is manufactured in a more rugged package. The Detective X includes a large 65mm x 50mm high-purity Germanium (HPGe) detector and incorporates a field-proven Sunpower® Stirling cooler. The system employs AVC™ (active vibration cancellation), a technology that virtually eliminates vibrational noise thereby offering superior detector resolution and identification performance.

The operational improvements incorporated into the Detective X include:

- Ruggedized design for harsh environments (IP65 compliant)
- Significant weight reduction (about half the weight of the Detective-EX-100T.)
- Battery life almost doubled with two batteries that are hot swappable
- New optional Lithium-6 zinc sulfide (Li6/ZnS) Neutron Detector Module (NDM) with no Helium-3 required
- Larger display screen that is easily readable in sunlight



THE **DETECTIVE X** IS THE LATEST ADDITION TO ORTEC'S INDUSTRY-LEADING LINE OF FIELD-PROVEN DETECTIVE HIGH-RESOLUTION RIIDS. ORTEC DETECTIVE PRODUCTS ARE THE STANDARD DEVICES DEPLOYED BY CUSTOMS, DEFENSE, AND INTELLIGENCE AGENCIES AND BY MANY STATE AND LOCAL FIRST RESPONDERS IN THE UNITED STATES AND IN MORE THAN 60 COUNTRIES AROUND THE WORLD.





# Detective X

## ORTEC



### SPECIFICATIONS

Nuclide Identification	P-type high-purity germanium (HPGe) crystal with Coaxial construction Crystal nominal dimensions 65 mm diameter x 50 mm length
Cryostat and Cooler	"Hardened" cryostat, with high-reliability, low-power Stirling cooler. The cryostat design is such that the Detective X may be switched off at any time and power subsequently re-applied, without having to wait for a full thermal cycle (full warm up before cool down). This feature greatly increases system availability during measurement campaigns.
Cool Down Time	The high reliability cooler is designed for continuous operation. Between making measurements the unit is powered from a DC supply, car battery or other device. Initial cool down time depends on ambient temperature, but is typically 8 hours at 25°C
Gamma dose rate detector	Three detectors determine the gamma dose rate over a wide range from <0.05 mR/h to >100 R/h, a dose-rate range of over six decades Instrument switches between the three automatically
Neutron detector module	The optional neutron detector is a large volume segmented lithium-6 fluoride/zinc sulfate (Li F/ZnS) detector that is ANSI N42.34 2015 compliant
Display	4.3" WQVGA (480 x 272 pixels) sunlight readable, touch sensitive, operate with finger or stylus
Data storage	To internal RAM and removable low profile USB flash drive The unit is shipped with a 16 GB Flash drive which holds over 100,000 spectra
Interface & software	USB and Ethernet TCP/IP v4 connections via standard RJ45 Ethernet connection (10/100Base-T - 10/100Mbps, autosensing) Ready for use with MFK (Mobile Field Kit for DoD users), ORTEC GammaVision, iOS devices and Android devices. Wi-Fi (802.11) communication software. Wireless Mobile MCB Server software
GPS	The instrument is equipped with an internal GPS. The location information associated with a measurement is optionally stored in the N42 files
Maximum overall dimensions	15.5 in L x 6.25 in W x 8.25 in H (39.5 cm L x 16 cm W x 21 cm H)
Weight	15.4 lbs (6.98 kg) gamma only. 16.8 lbs (7.2 kg) gamma/neutron
Input power	12 to 17 V DC from battery or DC power supply (universal mains supply included)
Temperature	-20°C to 50°C
Instrument enclosure	IP65 Sealed against ingress of dust and water. All perforations are sealed by rubber plugs (connectors, memory cards, etc.)

### APPLICATIONS

- Nuclear security
- Nuclear Medicine
- Research
- Decontamination / Dismantling

### ACCESSORIES

- Includes: GPS, vehicle charger, 16Gb USB flash card, bluetooth headset, hardened carrying case with casters, 2 rechargeable 96W lithium batteries, adapter and power cable.
- Optional: tungsten collimator or 4mm thick steel, low energy filter, charging cable for military specification batteries (2590), 2 batteries independent charger.

### HTDS

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