
**Thermo Scientific RIIDEye X**
Handheld Radiation Isotope Identifier

## Rugged Engineering

# Sensitive Radiation Identification

The next generation of tough, high-performance RIIDs, to withstand the harshest operating conditions.

Thermo
SCIENTIFIC

# RIIDEye X

## The Quickest Identification For The Fastest Response - Even Under Extreme Conditions

When it comes to radiation, it's critical to know the exact isotope and precise dose rate of the radioactive material to quickly initiate a plan of action.

The **Thermo Scientific™ RIIDEye™ X Handheld Radiation Isotope Identifier** does just that. Its patented Quadratic Compression Conversion (QCC) technology provides the industry's fastest, most accurate real-time gamma source and isotopic identifications. All of the data is displayed in an easy-to-read, full-spectrum color-coded interface, so you and your team can respond immediately. Whatever the scenario. Whatever the environment.

### Rugged Design

- ▶ Rubber Shock Absorbers
- ▶ IP 65 rating
- ▶ Temperature shock resistant
- ▶ Withstands drops up to 1 meter
- ▶ Easily decontaminated

**▶ Oversized Display**
Generates clear, high-resolution readings, even in direct sunlight

**▶ Intuitive Interface**
Expedites learning and increases functionality

**▶ One-Hand Operation**
Designed for real-life field work

**▶ Lightweight**
Ergonomic design promotes long-term usage

**▶ Raised Buttons**
Tactile compression enables gloved operation of control pad

**▶ Excellent Neutron Detection**
New CLYC detector provides He-3 performance without He-3

**▶ Proven Performance**
Tested compliance to ANSI N42.34-2006 standard for handheld RIIDs

**▶ Removable Memory Card**
Allows for reachback and further analysis

**▶ Low Maintenance Costs**
With built in automatic and manual calibration routines, RIIDEye is designed to go two years between full factory calibrations

# Spectroscopy Simplified

## QCC

Our unique, patented QCC algorithm maximizes the scintillation detector capabilities of RIIDEye instruments. It resolves difficult to see low energy peaks by expanding the number of channels, while simultaneously compressing high energy peaks which improves the signal-to-noise ratio. By compressing higher energies and expanding lower energies the RIIDEye differentiates typical benign isotopes from those found in threat material, such as SNM.

U.S. Patent No. 5,608,222

## SNM Assist

Special Nuclear Material can be hidden in many ways within the stream of commerce that can greatly affect its ability to be detected. To account for real world variability, SNM Assist analyzes the acquired ID spectrum in real time and automatically displays the optimum scan time to accurately detect the presence of SNM (Pu, U, Np).


▲ The RIIDEye X operator can view the real-time spectra build of isotopes present in the environment as the identification scan is in process.

Isotopes are color coded to visually alert the operator to the presence of benign, threatening or unknown sources and indicates the moment an accurate identification is made.

When activated, SNM Assist automatically calculates and alternately displays the optimal ID scan time, for the current environment, with the actual time remaining.

With Real Time Spectra Building and SNM Assist, users can customize the scan duration in real time for fast, reliable and efficient results.

# Operational Applications

- First Responders
- Security Forces
- Military Operations
- Scrap and Recycling Industry
- Landfill and Waste Water Treatment

**For more on the new RIIDEye X Handheld Radiation Isotope Identifier and other related products, contact your Thermo Fisher Scientific sales rep. Or visit our website at thermoscientific.com/RIIDEyeX now.**

## Solutions For Any Scenario

We offer the most complete line of handheld radiation detection systems on the market today – all backed by our extensive knowledge of the first responder market and global customer support. Check out our entire line of Thermo Scientific handheld radiation detection and ID products, including our RadEye GN, that work together to provide total solutions for virtually any scenario.

## Complete RIIDEye X Kit

The standard RIIDEye X kit includes:

- Foam-insulated hard carrying case
- Adjustable shoulder strap
- USB memory card reader
- AA alkaline battery adapter
- Print manual
- PC SW for viewing Spectra

## RIIDEye X Versions

The Thermo Scientific RIIDEye X is offered in four different models to balance performance and budget.

**RIIDEye X-G 4250880**

Medium resolution gamma radiation detector with NaI

**RIIDEye X-GN 4250885**

Medium resolution gamma and neutron radiation detector with NaI and CLYC neutron detector

**RIIDEye X-H 4250882**

High resolution gamma radiation detector with LaBr (Lanthanum Bromide)

**RIIDEye X-HN 4250886**

High resolution gamma and neutron radiation detector with LaBr and CLYC

## Technical specification of the Thermo Scientific RIIDEye X

| | |
|---|---|
| Gamma Detector | 2" x 2" NaI Scintillator, 1.5" x 1.5" LaBr |
| Energy Range | 20 keV to 3 MeV |
| Display | 320 x 240 high brightness 32000-color 3.5 inch LCD |
| I/O | Removable memory card or via serial port |
| Battery Life | 8 hrs with battery pack - spare battery adapter for 6- AA batteries provides additional hours |
| Weight | 2.6 kg (5.7 lbs) with 2" x 2" NaI detector, 2.4 kg (5.3 lbs) with 1.5" x 1.5" LaBr |
| Dimensions (with 2" x 2" NaI) | 27.9 x 12 x 21.9 cm (11 x 4.7 x 8.6 inches) |
| Temperature | -20 °C to 50 °C (-4 °F to 122 °F) |
| Controls | Well spaced 7-key pad for simple menu use with protective gloves |
| Alarms | Audio and visual on screen |
| Stabilization | Automated and continuous with natural potassium requiring no periodic source replacement or licensing |
| Library | 47 isotopes with 6 different trigger lists including Standard ANSI, ANSI+, security, medical, industrial and user defined |
| Neutron Detector | 1.8 x 3.4 cm Ce doped Cs2LiYCl6 (CLYC) crystal |
| Functions | Isotope identification, spectral analysis, dose rate meter, source locator |

## Options

1. Test adapter for RIIDEye Series, 425085071: 9 g of $Lu_2O_3$ ceramic and 10 g of 2 % thoriated tungsten welding rod WT-20, energy range 20 keV to 3 MeV.
2. Spare memory card PG-110796: Spare memory card containing factory calibration data and FW.

**thermoscientific.com/RIIDEyeX**

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