

Features

- ✓ Fast and portable imaging spectrometer
- ✓ Ready to use in only 90 s
- ✓ Rapidly identifies gamma-ray sources
- ✓ Real-time spectroscopy, imaging, and ID
- ✓ Discrimination between background and sources of interest in less than 20 s
- ✓ Precision overlay of gamma-ray and optical images
- ✓ Images both point and distributed sources
- ✓ Option for $\leq 0.8\%$ FWHM energy resolution at 662 keV and interaction-by-interaction resolution of $\leq 0.65\%$ FWHM
- ✓ Energy range covers isotopes of interest up to 3 MeV

Integrate H3D's ruggedized detector module for your application. This box contains everything you need for high-resolution spectroscopy and isotope-specific imaging.

Perfect for integration with:

- Vehicles
- Drones
- Robots
- Monitoring stations
- Other sensor suites

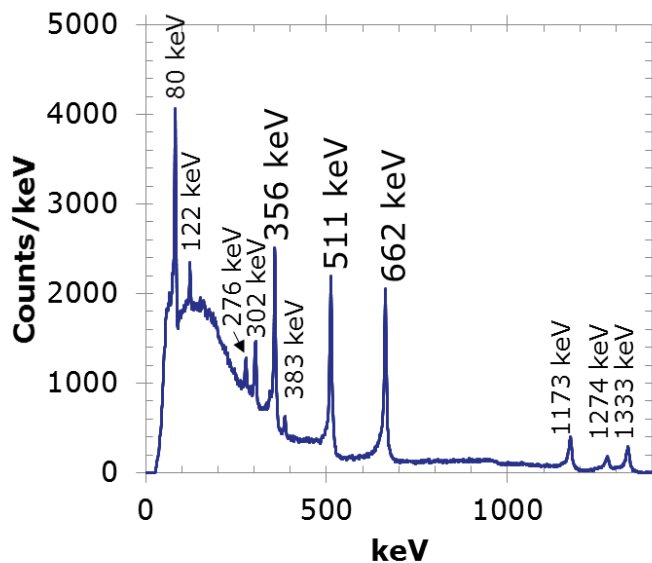


Containing the most advanced room-temperature semiconductor technology to achieve spectroscopic performance competitive with cryogenically-cooled detectors, the detector module has:

- Compact and light-weight size
- Fast startup
- Weather-resistant and durable design



T410 mounted on a special service vehicle



About H3D, Inc.

H3D® is commercializing CZT-based 3D radiation-imaging technologies for nuclear power plant, CBRNE, defense & homeland security, and medical applications. A 2011 spinout from the University of Michigan, we have performed sponsored research for the Defense Threat Reduction Agency, Department of Energy NA-22, and National Institutes of Health. Visit us at h3dgamma.com to view our entire selection of products for your application. Our team has over 100 years of combined experience in Compton Imaging, CZT readout, and system integration. We are privately held, market-driven, and committed to providing our customers with the highest performance and most user-friendly instruments possible.

High-Resolution Option (T410⁺)

Improved energy resolution of $\leq 0.8\%$ FWHM at 662 keV (coincident interactions combined) and $\leq 0.65\%$ FWHM at 662 keV (coincident interactions separated)

Spectroscopy-Only Option (T400S)

Remove radiation-imaging and optical camera. Also available as T400S⁺ with higher resolution.

Shielded Option (T410P)

Add shield material to all but forward side to reduce background. Add 2.14 lbs (1.0 kg). Also available as T400SP, T400SP⁺, and T410P⁺.

T410 Base Specifications

Note: Custom designs also available

Dimensions:	6.20 in x 6.04 in x 8.57 in (15.7 cm x 15.3 cm x 21.8 cm)
Weight:	8.7 lbs (3.9 kg)
Ingress Protection:	IP67
Power Supply:	24 VDC, 75 W peak
Operating Temperature:	-40° C to 50° C (-40° F to 122° F)
Operating Humidity:	0-100%
System Cooling:	Integrated fan
Energy Resolution:	$\leq 1.1\%$ FWHM at 662 keV $\leq 0.9\%$ FWHM at 662 keV (coincident interactions separated)
Energy Range:	50 keV to 3 MeV (spectroscopic) 250 keV to 3 MeV (Compton imaging) 50 keV to 250 keV (coded-aperture imaging)
Optical Field of View:	90° horizontal, 68° vertical; full color
Radiation Field of View:	4π (360°) omnidirectional (Compton imaging) 86° x 86° (coded-aperture imaging)
Angular Precision:	$\pm 1^\circ$ source localization for all 4π (real time)
Angular Resolution:	$\sim 30^\circ$ FWHM for all 4π (real time; >250 keV) $\sim 20^\circ$ FWHM for all 4π (post processing; >250 keV) $\sim 5^\circ$ FWHM in coded-aperture field of view (<250 keV)
Crystal Volume:	>19 cm ³ CZT (CdZnTe)
Sensitivity:	Detects 10-μCi ¹³⁷ Cs at 1 m (~ 3 μR/hr) in <22 s (in natural background) Localize point source of ¹³⁷ Cs producing ~ 3 μR/hr in <90 s
Count-Rate Limit:	1 rem/hr (10 mSv/hr), front bare- ¹³⁷ Cs equivalent
Startup Time:	90 s at 23° C (73° F)
Isotope Library:	Select from 3573 ENDF isotopes & user defined; unlimited
Communication:	Ethernet
Warranty:	2 years (includes annual recalibration and software updates)



T410 mounted on a RZR



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