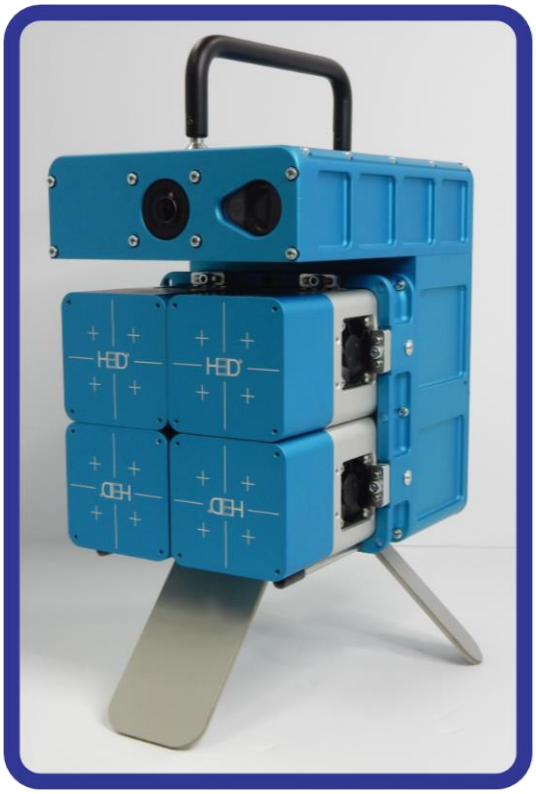
H1600

Gamma-Ray Imaging Spectrometer

Features

- ✓ Highly efficient imaging spectrometer
- ✓ Fast, portable, and easy to use
- ✓ Rapidly identifies and locates weak gamma-ray sources
- ✓ Real-time spectroscopy, ID, and imaging
- ✓ Option for ≤0.8% FWHM energy resolution at 662 keV and interaction-by-interaction resolution of ≤0.65% FWHM
- ✓ Energy range covers isotopes of interest up to 3 MeV
- ✓ Ready to use in under 60 s
- ✓ Unsurpassed efficiency with >77 cm^3 pixelated CZT
- ✓ Precision overlay of gamma-ray and optical images
- ✓ Images both point and distributed sources
- ✓ Integrated rangefinder
- ✓ Air/watertight for easy decontamination
- ✓ Wireless, Ethernet, or USB communication
- ✓ Cleanable for decontamination
- ✓ All non-volatile memory accessible and removable outside detector compartment
- ✓ Integrated tablet mount
- ✓ Options for gamma-ray imaging from 50 keV to 3 MeV
- ✓ Automatic report generation
- ✓ Annual recalibration and software updates included

The H1600 is H3D's highest efficiency, portable detector system. Detect, identify, and image even weak sources quickly and accurately with this user-friendly design.



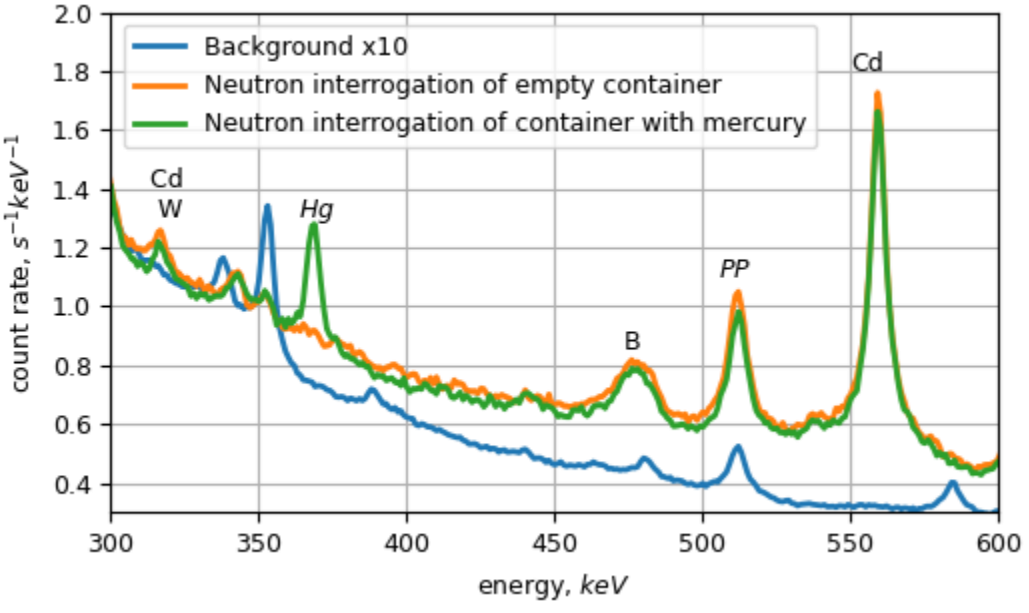
The H1600 is ideal for applications in:

- ❑ Decommissioning
- ❑ Active interrogation
- ❑ Characterization
- ❑ Monitoring

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

- ❑ Compact and light-weight size
- ❑ Fast startup
- ❑ Excellent energy resolution
- ❑ Low power

Contact H3D to use the H1600 for your application.



Any options can be combined, except as noted.

Extra-High-Efficiency Option (H1600-15)

Increase crystal volume to >116 cm^3. Also available as a higher-resolution H1600+-15 with no resolution guarantee.

High-Resolution Option (H1600+)

Improve energy resolution to ≤0.8% FWHM at 662 keV (coincident interactions combined) and ≤0.65% FWHM at 662 keV (coincident interactions separated).

Quantification Option (H1600Q)

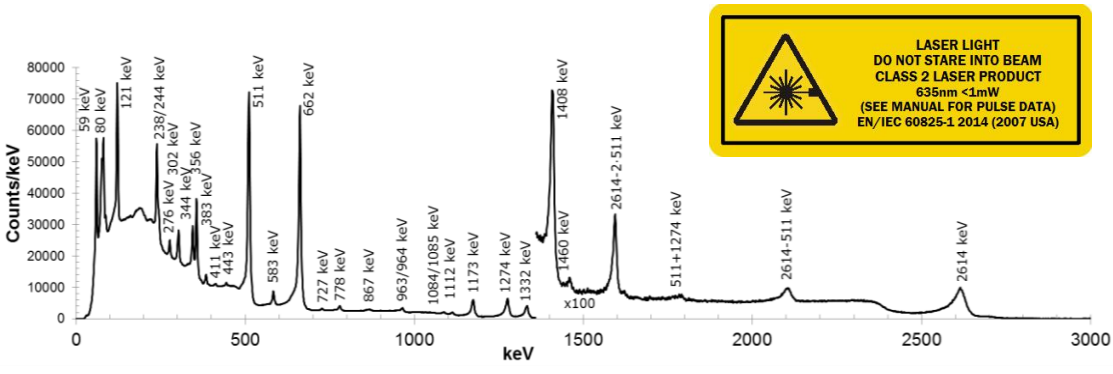
Photopeak efficiency variation <1% across temperature range.

Low-Energy-Imaging Option (H1610)

Enable imaging from 50 keV to 250 keV by adding coded aperture.
Field of View: 86° × 86°
Angular Resolution: ~5° FWHM

H1600 Expected Base Specifications

Dimensions:	5.0 in x 8.0 in x 7.0 in (12.7 cm x 20.3 cm x 17.8 cm)
Weight:	11.7 lbs (5.3 kg)
Ingress Protection:	IP67 (excluding external media)
Tripod Mount Add-on:	1/4"-20 and 3/8"-16
Battery Life:	>6 hours at 23° C (73° F)
Power Input:	100-240V, 47-63 Hz
System Cooling:	Cleanable heat sink and removable fans
Startup & Operating Temp.:	-20° C to 50° C (-4° F to 122° F)
Startup Time:	<60 s at 23° C (73° F)
Energy Range:	50 keV to 3 MeV (spectroscopy) 250 keV to 3 MeV (Compton imaging)
Energy Resolution at 25° C (77° F):	≤1.1% FWHM at 662 keV (coincident interactions combined) ≤0.9% FWHM at 662 keV (coincident interactions separated)
Radiation Field of View:	4π (360°) omnidirectional (Compton imaging)
Angular Precision:	±1° source localization for all 4π (real time)
Angular Resolution:	~30° FWHM for all 4π (real time; >250 keV) ~20° FWHM for all 4π (post processing; >250 keV)
Sensitivity:	Detects 10-μCi ^{137}Cs at 1 m (~3 μR/hr) in < 7 s (in natural background)
Crystal Volume:	>77 cm^3 CZT (CdZnTe)
Count-Rate Limit:	1 rem/hr (10 mSv/hr) bare-^{137}Cs equivalent
Rangefinder:	Integrated Class 2 laser; 635 nm; <1 mW
Optical Field of View:	>154° horizontal, >142° vertical; full color Option for 100° horizontal, 85° vertical with better optical res.
Optical Registration:	±2° to radiation image in front 90° × 90°
Isotope Library:	Select from 3573 ENDF isotopes & user defined; unlimited
Display:	8" 1280x800 HD tablet (mountable to back cover)
Tablet Communication:	Peer-to-peer WiFi or Bluetooth, or wired connection
Other Communication:	Ethernet RJ45 port; TCP/IP
Views:	Spectrum, gamma image, optical image, composite image
Data Storage:	Removable USB (64 GB) included
Warranty:	2 years (includes annual recalibration and software updates)
Includes:	Visualizer software for advanced post processing Power/accessory cables, stylus, and tablet Transport and storage case



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