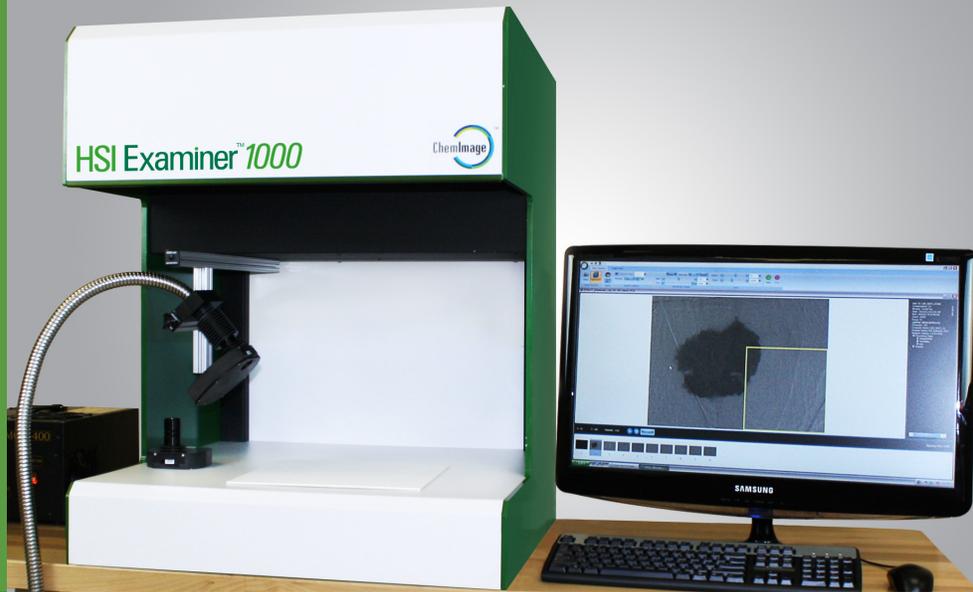




HSI Examiner™ 1000



Forensic Applications

- Non-Destructive imaging of evidence samples
- Enhance contrast of latent prints on challenging substrates
- Locate spatter and transferred blood stains on dark substrates
- Visualize and characterize ignitable liquid residue patterns even on aged evidence samples
- Visualize gunshot residue patterns

A Hyperspectral Imaging Platform for a Wide Range of Forensic Evidence

The HSI Examiner™ 1000 is an ideal imaging system for a large forensic laboratory. From enhancement of contrast of latent prints and bloodstains on challenging substrates to examination of trace evidence, the HSI Examiner™ 1000 can be used to study a variety of forensic evidence.

What sets this innovative product apart are the hyperspectral imaging (HSI) capabilities that help to turn challenging forensic problems into simple routine examinations. HSI combines digital imaging technology with conventional spectroscopy for evidence analysis. It provides high spatial resolution, high image definition, and full spectrum analysis.

The HSI Examiner™ 1000 provides reflectance, absorbance and fluorescence HSI capabilities for evidence detection. The HSI Examiner™ 1000 has the ability to combine spatial and spectral information, allowing enhanced contrast that results in less substrate interference. Subtle features of evidence patterns that are not observed with traditional imaging techniques, can be drawn out to help strengthen your case conclusions.

Product Specifications

The HSI Examiner™ 1000 features proven spectral processing techniques to enhance substrate contrast or remove background interferences and a large, enclosed sample compartment for multiple types of evidence.

Imaging Capabilities

- o Broadband imaging filters to detect region of interest or “easy” features
- o High-performance hyperspectral imaging (400-1100 nm) with liquid crystal technology to enhance features or remove background interferences
- o High-performance camera with enhanced sensitivity into the near-IR region

Illumination

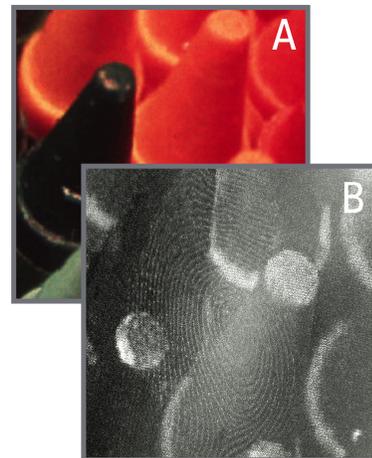
- o Broadband white light
- o Tunable light for luminescence
- o Ultraviolet excitation

HSI Examiner™ 1000 Application Examples

Latent Print Visualization on Complex Backgrounds

The HSI Examiner™ 1000 can be used to improve image contrast for fingerprints, especially for untreated latent prints that appear on complex backgrounds. HSI provides the ability to spectrally separate the color components of the latent print and the background, providing increased contrast for better visualization and inspection.

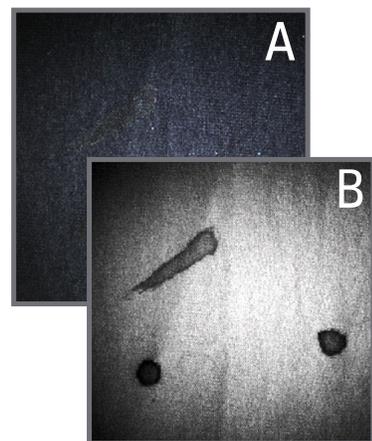
Example: Untreated fingerprint on a complex two-dimensional representation. A) RGB sample image. B) Hyperspectral image after spectral processing using broadband white light illumination.



Visualization and Location of Body Fluids on a Variety of Substrates

The HSI Examiner™ 1000 provides the capability to quickly and easily view blood stains, whether transfer or spatter, on dark fabrics. Serology, DNA, and blood spatter analysts can use this system for screening and visualization of blood and other body fluids.

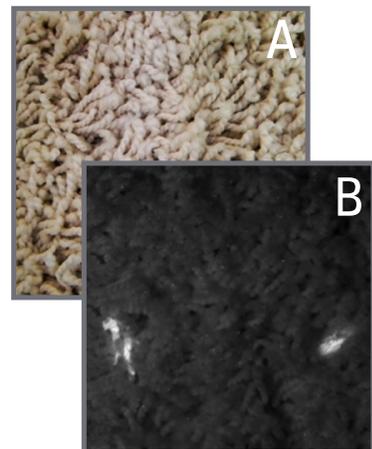
Example: Blood stains on black cotton fabric. A) Digital image of black cotton fabric. B) Hyperspectral image using broadband white light illumination showing blood stains



Characterization of Ignitable Liquid Residues

The HSI Examiner™ 1000 can be used to examine samples with suspected ILRs. HSI techniques provide capability for visualization of pattern and location as well as visualization of contrast indicating the presence of multiple liquid residues. Fluorescent taggants in the ILRs are detected even on aged samples.

Example: Ignitable liquid residues (ILR) on carpet sample. A) Digital image of carpet sample. B) Hyperspectral image using fluorescent excitation. 20µL gasoline (left) and 20µL diesel fuel (right) on carpet are visible.



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