



Microspectroscopic Document Analysis

Objective Examination of Inks and Papers

Questioned Document Examination

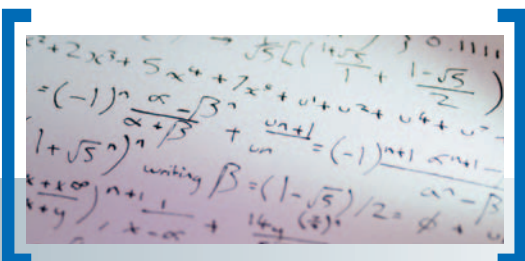
Inks and paper are everywhere. They exist in the form of handwritten letters, checks, periodicals, packaging, official documents such as passports, identification, currency, and more. It is the job of the questioned document examiner to examine inks and papers, whether it is to determine if a currency is counterfeit or a signature was overwritten. Of the many techniques available, colorimetric and spectral analysis are among the oldest and most discriminating.

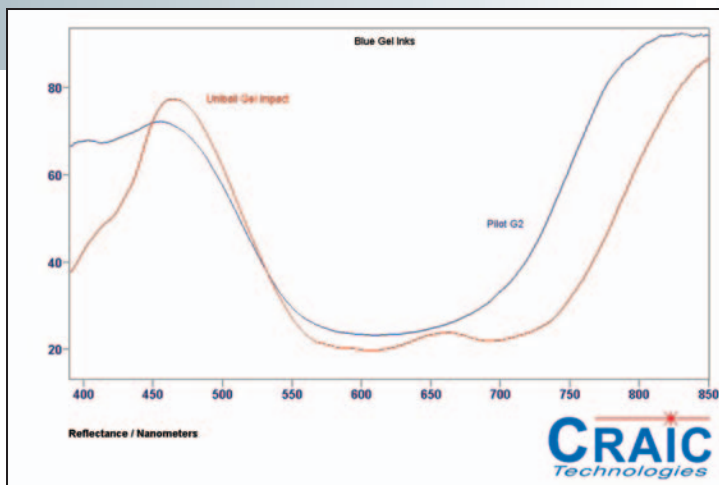
Today, preliminary examination of any document is almost always done visually. First with the naked eye and then increasing in magnification with a microscope to see the smallest features. Imaging systems are also used. But these techniques are limited in that they are not quantifiable and cover only a small portion of the visible range.

Objective Document Examination

CRAIC Technologies is proud to introduce two microspectrophotometers for quantifiable analysis of documents. The **QDI 1000™** microspectrophotometer can take spectra from the deep UV all the way into the mid-IR. The **QDI QDS II™** stereomicrospectrophotometer™ was designed for document examination and succeeds with easy, quantifiable color analysis of inks and papers. Both the QDI 1000 and QDS II can take spectra of documents by transmission, absorbance, reflectance and fluorescence...all with one instrument. Their results are superior to visualization or imagery because they can measure beyond what the eye or camera can see. And whereas the eye or camera sees every color at once, the QDI microspectrophotometers measure its intensity in 0.32 nm slices, allowing the examiner to differentiate previously unnoticed variations in samples. These instruments are so sensitive that they can even differentiate small changes in ink pigments on colored papers. Very useful for verification of everything from currency to passports.

Quantifiable and verifiable data of even the smallest details can now be acquired easily and non-destructively with the **QDI 1000™** and the **QDS II™** microspectrophotometers. Now a QD examiner's analysis can meet Daubert challenges with scientifically accepted spectroscopic testing.



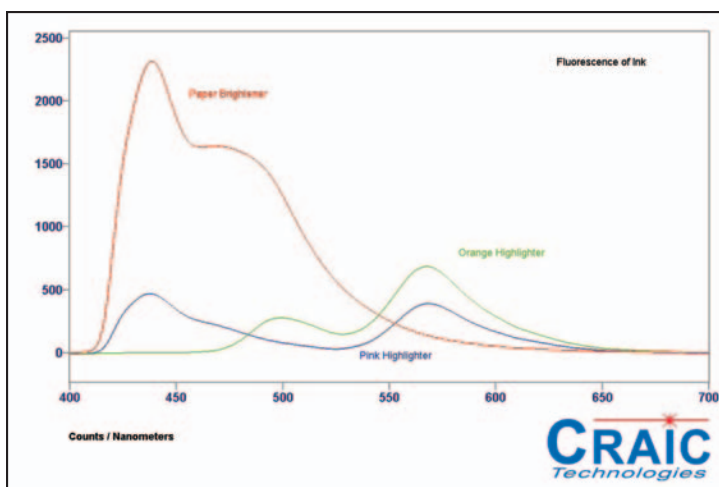


The QDI Microspectrophotometer Advantage

- Multiple techniques: measure color, UV, IR, fluorescence and IR luminescence all with one tool
- Versatile: absorbance, transmission, reflectance, emission spectroscopy all in one tool
- Advanced: thermoelectric cooled CCD detectors for high sensitivity and stability
- Small spot: spectra of areas from 1 micron up to 250 microns for everything from pigment particles to microprinting
- Digital Imaging: Megapixel color imaging is a standard feature
- Non-destructive and non-contact: little or no sample preparation is required
- Durable: all solid-state construction for the highest reliability

Multiple Techniques in One Instrument

- Color Microspectroscopy: validate visual examination with verifiable data. Analyze pigments and dyes
- UV Microspectroscopy: analyze inks, fillers, wood pulp and brighteners as well as security features
- NIR Microspectroscopy: investigate NIR security features
- Fluorescence Microspectroscopy: examine security features including the new upshifters
- IR Luminescence Microspectroscopy: detect overwriting and other features

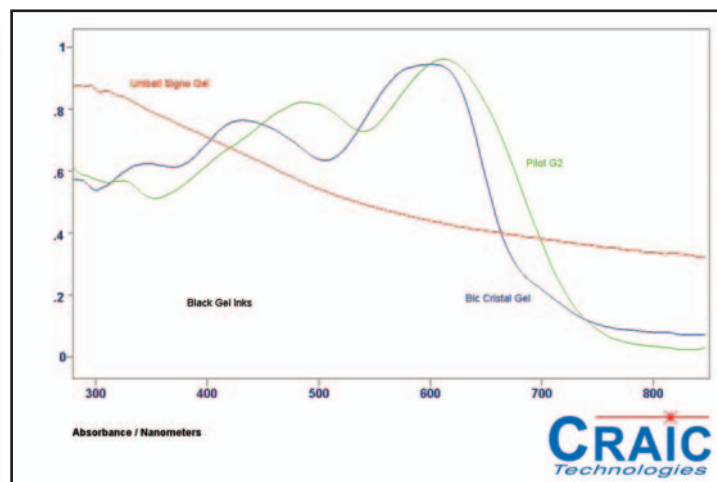
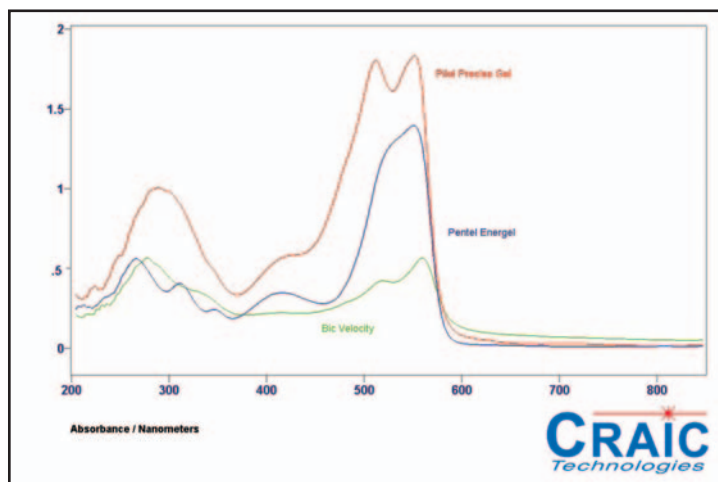


CRAIC Technologies QDI QDS II™ Stereomicrospectrophotometer™

Designed for color, IR, IR luminescence and fluorescence analysis of ink and paper.

Specifications of QDI™ Microspectrophotometers

	QDI QDS II™	QDI 1000™
Spectral Range	350 to 1000 nm	240 to 900 nm
NIR Option	350 to 1700 nm	240 to 2100 nm
Fluorescence Range	400 to 1000 nm	290 to 1000 nm
Excitation Wavelengths	UV to Green	Deep UV to Green
Sampling Area	Up to 250 x 250 microns	Down to 1 x 1 micron
Spectral Bandwidth	0.32 nm	
Spectral Resolution	User selected from 1 nm to 15 nm	
Detector	Thermoelectric cooled CCD array	
Scan Time	1 millisecond minimum	
Imaging System	Color, true digital	
Image Resolution	Megapixel	
Software	Integrated instrument control and data analysis, image acquisition and spectral databasing	



CRAIC Technologies LLC, 2400 N. Lincoln Ave. Altadena, CA 91001 USA

Tel: +001-626-296-6422 / Fax: +001-626-296-6324

web: www.microspectra.com / e-mail: sales@microspectra.com

Copyright © 2004 CRAIC Technologies LLC. Specifications subject to change without notice.