

**FILE 6427****Cost Comparison-Universal Imaging System for Police  
Department**

	<b>VENDOR</b>	<b>VENDOR</b>	<b>VENDOR</b>
	<b>SPEX Forensics Division of Horiba Instruments Inc.</b>	<b>Foster and Freeman USA Inc.</b>	<b>Foster and Freeman USA Inc.</b>
<b>Place of Business</b>	Edison, NJ	Sterling, VA	Sterling, VA
	ImaQuest Software/IdentQuest Image Documentation	Crime-Lite Imager- *This is a camera only system that does not include Imaging Software. Therefore, its capabilities are limited.	DCS5 Imaging Software
<b>Total Cost</b>	<b>\$56,405.00</b>	<b>\$40,974*</b>	<b>\$94,183.35</b>



SPEX Forensics Division  
HORIBA Instruments Incorporated  
3880 Park Avenue, Edison, NJ 08820-3012 Tel 732-623-8335 Fax: 732-623-8273  
www.spexforensics.com

**Robyn Forsyth**  
**Buyer**  
**City of Denton Materials Management**  
**901 B Texas St**  
**Denton TX 76209**  
**W# 940-349-7101**

**Date: 22 June 2017**

**Quote#: WHIR-03212017-90**

Delivery: 90-120 Days ARO

Payment Terms: Net 30 days, Upon Approved Credit

Validity: 30 days, Terms and conditions attached

F.O.B. Edison NJ

### QUOTATION

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Unit Price</u>	<u>Qty</u>	<u>Extended</u>
1	UIS	Laboratory Universal Imaging System; 16 Megapixel Full Spectrum Imaging Camera package for Fingerprint work.  Digital Imaging System providing Image Capture, Image Enhancement and Image Comparison.  Full Spectrum imaging capability in the Shortwave UV (RUVIS), Longwave UV, Visible, and Infrared.  Includes both Optical and Digital Enhancement with High Resolution, High Dynamic range image capture.  A Complete system including 16MP CCD Camera, Image Enhancement/Comparison Software Suite, and Computer.  Included Hardware: <ul style="list-style-type: none"><li>- UIS Camera: 16MP, 4904 x 3280 Full Spectrum Camera, with ability to capture from 250-1100nm, 78mm quartz lens with 52mm filter mount.</li><li>- Filters: Various Band Pass and Long Pass filters. BP: 254nm, 365nm, 415nm, 450nm, 500nm, 515nm, 550nm, 570nm, 590nm, 600nm, LP: 530nm, 550nm, 570nm, 590nm, 610nm, 630nm, 665nm, 695nm, 715nm, 780nm, 830nm, 850nm, 1000nm.</li><li>- All filters include specialized quick release attachment.</li><li>- PC Set-up*: All in One Computer, Intel i7- 3.4GHz Processor, 8Gb RAM, 2Tb HDD, and Blu-Ray Recordable, 27" LCD Monitor, Scanner and Laser Printer.</li><li>- Accessories: Copy Stand with column and 18" x 20" base, Arm and Clamp system, 254nm Lamp, 365nm Lamp.</li></ul> Included Software: <ul style="list-style-type: none"><li>- ImaQuest® Fingerprint Enhancement and Comparison Software featuring: Fast Fourier Transform (FFT), Background Subtraction, Color Foreground Subtraction, Stitching, Brightness &amp; Contrast, Tracking History, Compressed Storage, Minutiae Extraction, Side-By-Side Comparison Menu, Charting and Documentation creation.</li><li>- WSQ Forensic Compression Module integrated in ImaQuest (FBI 12:1 certified compression, user adjusted other compression rates available) for storage/backup and compressed images email</li></ul>	\$55,780.00	1	\$55,780.00



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transfer (WSQ includes small and large preview of images and converts TIFF, BMP to/from WSQ images).

- JQuest Capture software specifically designed for UIS camera providing quick, user friendly, user defined presets for: Screening, Focusing, and Capturing high resolution images.
- CSCOPE Software

1	CS-16-500-15F	CrimeScope CS-16-500W Forensic Light Source. Laboratory Unit – 15 tiltable wavelengths + IR port.	INCLUDED	1	INCLUDED
		500W Xenon lamp with 1000+ hour lifetime. The CrimeScope is offered with 16 wavelengths: UV 300-400nm, 415nm, 445nm, 455nm, 475nm, 495nm, CSS (Crime Scene Search shortpass filter SP540nm), 515nm, 535nm, 555nm, SP575nm, 600nm, 630nm, 670nm, white light and infrared output. Delivered with complete set of accessories: - 10mm dia. dual armored liquid light guide, - Push-button remote control integrated at working end of light guide, - 5 pairs of goggles (UV, YW, 2OR, RD), - 1 set of 62mm dia camera filters: yellow, orange, dark orange, and red - 1 flexible arm and 2 rugged clamps, - Manual, - Rugged carrying case with wheels and handle.			
2	TRAINING	1 DAY ON-SITE TRAINING AND INSTALLATION WITHIN 4-5 WEEKS AFTER DELIVERY.(a \$1,995.00 value)	INCLUDED	1	INCLUDED

Subtotal	\$55,780.00
Shipping, Packing & Handling	\$625.00
<b>TOTAL</b>	<b>\$56,405.00</b>

***Tax Exempt Status:***

*Please state clearly on your order if your agency is tax exempt and supply a valid copy of your tax exemption certificate.  
A delay in sending a valid tax exempt certificate can prevent proper processing of your order and may delay delivery.*

NOTE: \* PC Specifications are only a guide; system shipped will meet or exceed these minimum specifications

**TRAINING – Included as listed in quote above.**

**WARRANTY - All Forensic Light Sources come with a complete One Year Warranty on ALL parts and labor.**

\_\_\_\_\_\*via e-mail\*\_\_\_\_\_  
Walter Hiller  
Forensic Instruments Specialist  
SPEX Forensics Division of HORIBA Instruments Incorporated

***Please reference this quotation number and fax all purchase orders to the attention of Maryann Ingenito, Forensics Sales Coordinator at Fax # 732-623-8273***

**BUSINESS CONFIDENTIAL: CUSTOMER USE ONLY**



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## Universal Imaging System - UIS

### SOLE SOURCE CERTIFICATION:

This is to certify that HII/SPEX Forensics is the only company which manufactures and sells a digital imaging system with the following salient specifications which are critical for fingerprint capture, enhancement, identification, and for document examination:

- The UIS is the only instrument which uses a 16MegaPixel Full Frame, Dual Channel CCD camera with a spectral range from 200nm to 1100nm and 4x binning capability. This camera is called the SceneScope RUVIS UHD.
- The SceneScope RUVIS UHD is designed to accurately capture latent prints for AFIS and IAFIS submissions, with its resolution of 4904 x 3280 pixels.
- The SceneScope RUVIS UHD includes 78mm optical lens for photographing latent prints; Bandpass filters at 254nm and 365nm mounted with a specialized quick release attachment.
- The UIS is the only system which includes ImaQuest and IdentQuest Image Enhancement and Documentation programs.
- The ImaQuest Fingerprint Enhancement program comes with many features including these unique enhancement capabilities:
  - FFT – Fast Fourier Transform: with live display while Cutting and/or Boosting areas
  - Image Subtraction: with live view of results, the ability to enhance prints on multi colored and patterned surfaces.
  - Calibration: Images can be calibrated based on known image size, using a rule or fingerprint ridge spacing.
  - Filters: Gauss, Equalization, Sharpen, Low pass, Statistical Scaling, Custom
  - Tracking: An encrypted log which automatically documents each enhancement completed on an image, noting the enhancement, time/date and user completing each step. This file is printable and also allows for step by step re-enhancement of an image.
- The IdentQuest Image Documentation program allows the users to create courtroom ready document, comparing any two images, using these unique features:
  - Minutiae Marking: Two images can be placed side by side and the program will automatically extract minutiae points for comparison purposes. The user has the ability to accept, reject or add place points.
  - Auto Charting: One step function to automatically tag each and every selected point. Each tag has the ability to be alphanumeric for charting purposes.
- The UIS image storing formats include: BMP, JPEG, TIFF, PCX, TGA, GIF, IQD, TRC (History Tracking Format), WSQ (FBI Certified 12:1), and Adjustable Compression ratio (1:1 – 20:1) with live image preview.
- The UIS is a fully functioning Reflective Ultraviolet Imaging System (RUVIS) which has the ability to image untreated latent fingerprints on smooth non-porous surfaces. RUVIS can be effective over a wider range of surfaces when the latent prints are fumed with cyanoacrylate (superglue)
- The UIS is the only system that will switch wavelengths CrimeScope wavelengths via USB interface

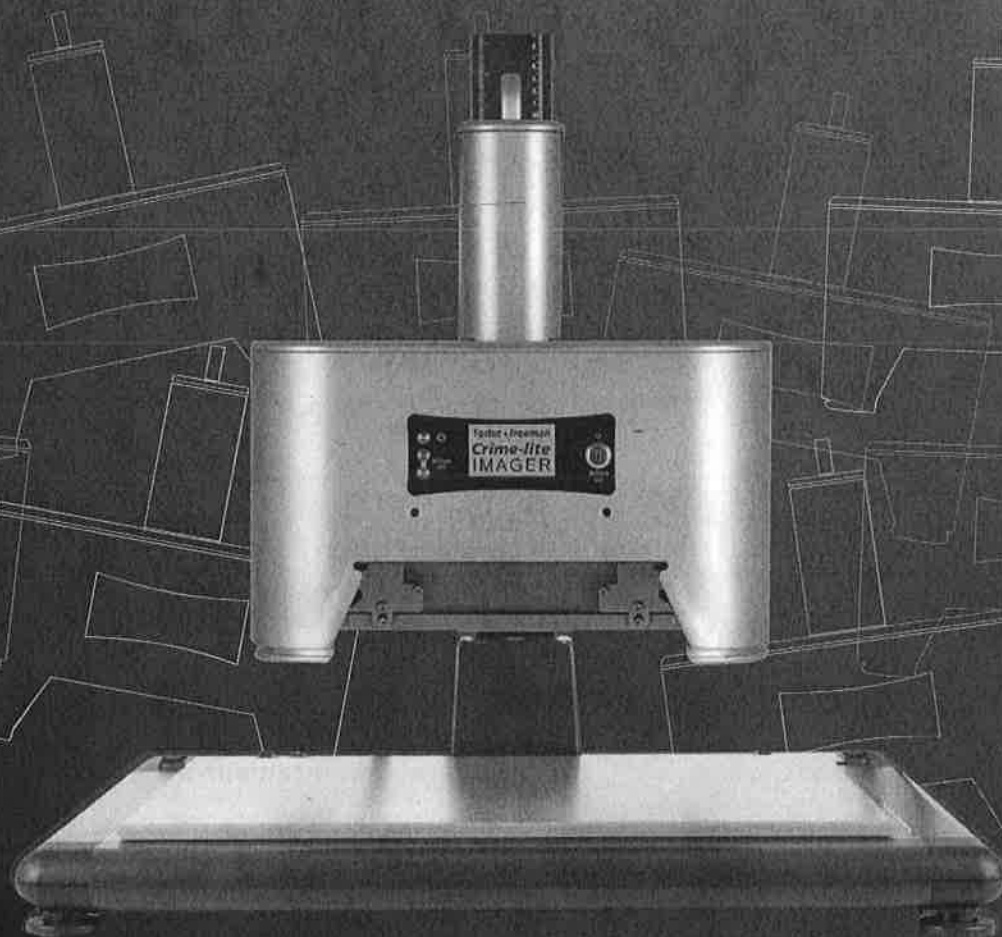
### APPLICATIONS:

- Fingerprint detection, capture, enhancement, identification, documentation and preservation (including blood prints, ninhydrin prints)

Jon Goldey  
Forensic Instrument Specialist  
HORIBA Instruments Incorporated/  
SPEX Forensics Division

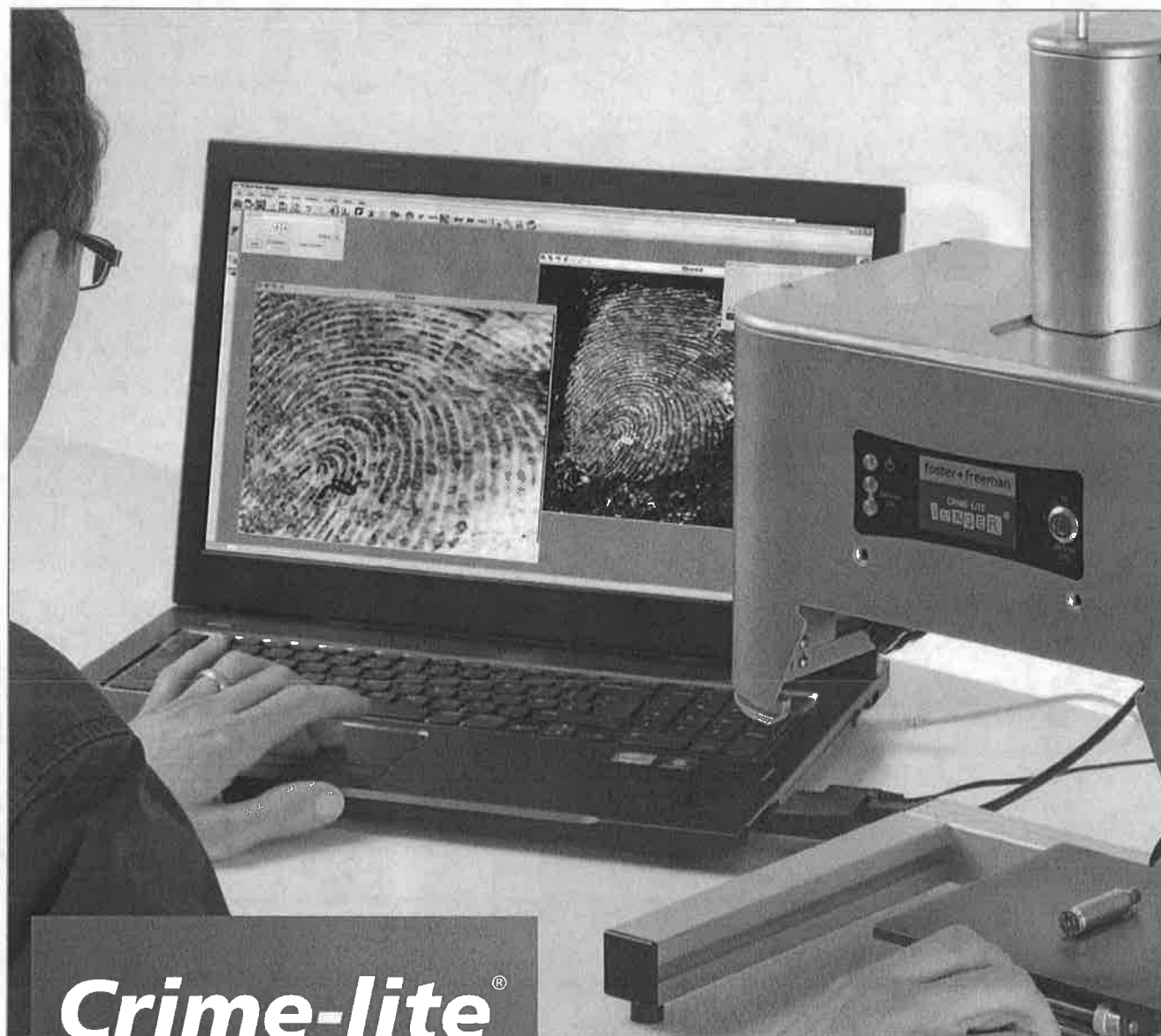


# ***Crime-lite***<sup>®</sup> I M A G E R



**Semi-Automated Workstation for  
FINGERPRINT PHOTOGRAPHY**

Illuminate >> Capture >> Enhance



# **Crime-lite®**

## I M A G E R

### **UV-Vis-IR imaging**

High performance 5MB GigE camera  
sensitive from UV to IR

### **Multi-spectral illumination**

32-LEDs providing up to  
98 colour combinations

### **Integral lens filter selection**

Motorised filter wheel

### **Two modes of operation**

Choose from semi-automated or  
advanced manual mode

### **A fully integrated workstation for the semi-automated illumination, photography & digital enhancement of fingerprints**

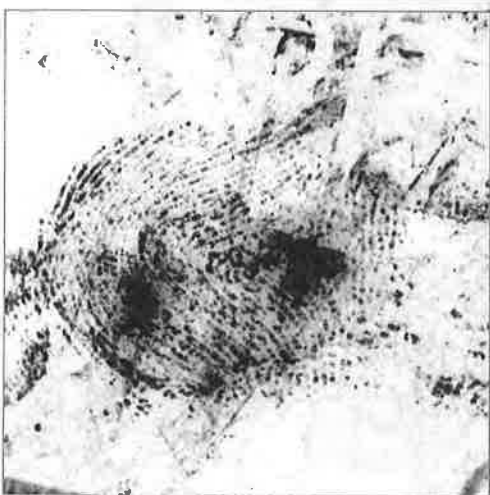
A complete forensic imaging system, the Crime-lite®Imager combines advanced image capture technology with multi-wavelength illumination and digital image processing, to expedite the process of fingerprint capture and enhancement.

Operated via an intuitive software interface, the system simplifies the fingerprint imaging process, asking the operator to identify the type of evidence to be examined (using a series of simple drop-down menus), before semi-automatically selecting the optimum illumination, image capture and post-processing to visualise fingerprints under the selected conditions.

Consistently high quality results can be produced in a matter of minutes by operators with varying degrees of photographic expertise.



Evidence: Plastic shopping bag  
Treatment: Cyanoacrylate

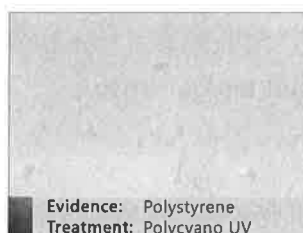


**Delivers consistently impressive images of fingerprints on a wide range of evidence types**

Expert photographic practice is made simple using the semi-automatic mode of operation where enhancement options are presented as a simple dropdown list.

Preset evidence types include:

- 18 fingerprint treatment types including: DFO, ninhydrin, BY40, PolyCyano, Ardrex etc.
- Handwritten and printed documents
- Trace evidence including blood, fibres, GSR etc.



Evidence: Polystyrene  
Treatment: Polycyano UV

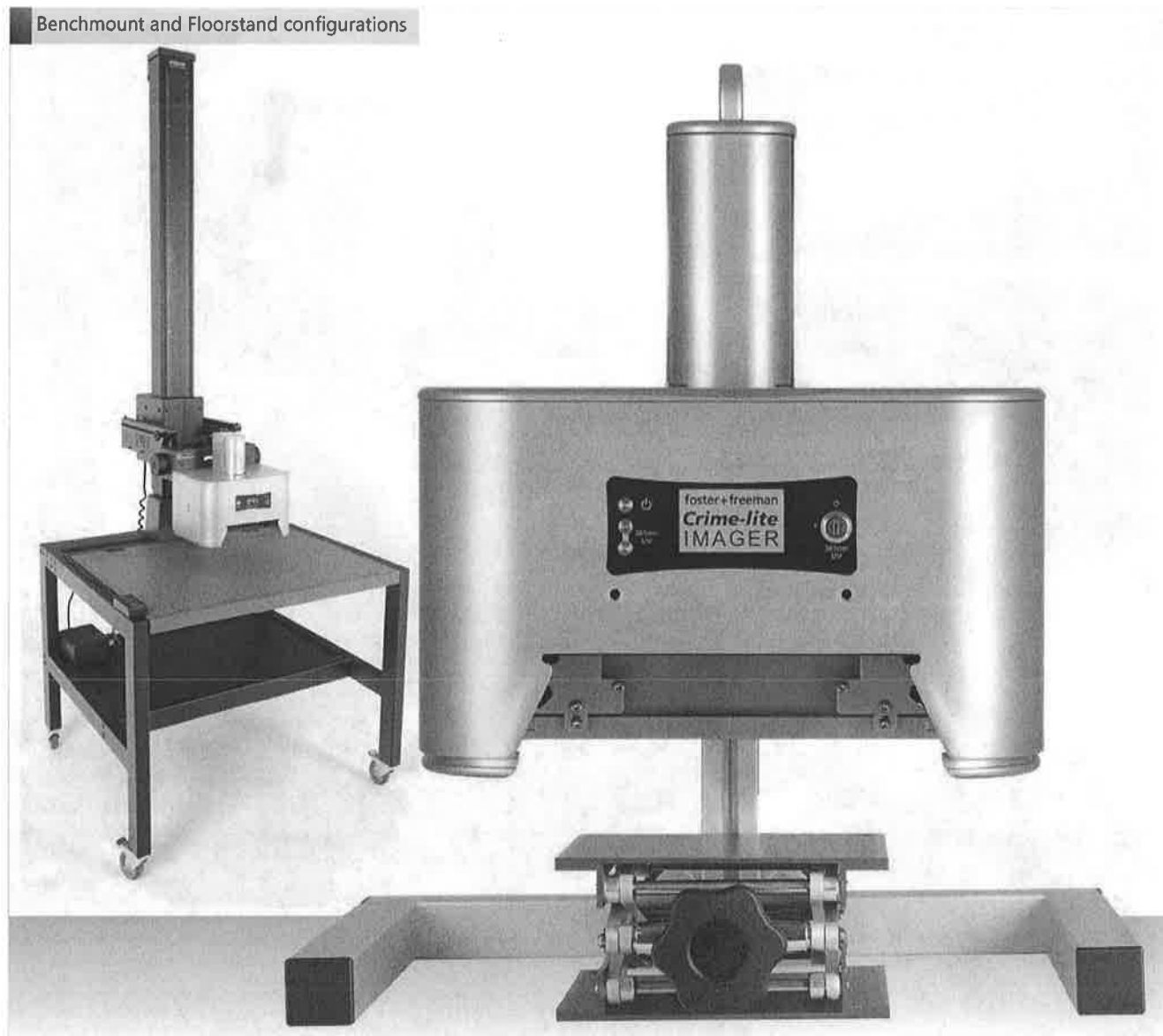


Evidence: Packing tape  
Treatment: Black Powder



Evidence: Banknote (polymer)  
Treatment: fpNATURAL® 1





### Fully-integrated illumination and image capture

The standalone Crime-lite®Imager system includes high sensitivity image capture technology and multi-spectral illumination within a single compact unit that can be used in the forensic laboratory or deployed at the crime scene.

#### Illumination:

- 32x high intensity narrowband LEDs capable of producing 98 colour combinations
- 4x powerful Vis/IR halogen lamp capsules
- Optional Vis/IR continuous narrowband illumination source, 400-1000nm

#### Imaging:

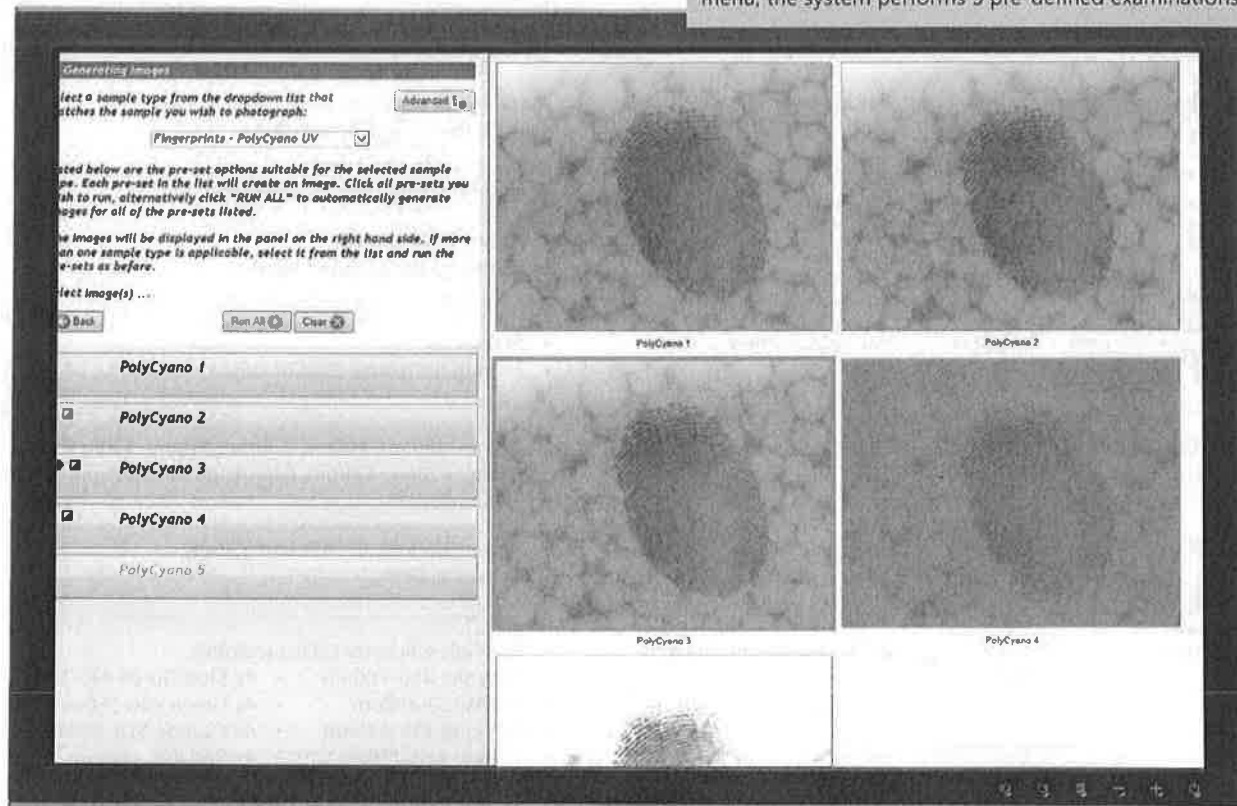
- High performance 5 megapixel camera with GIGE connectivity
- 35mm wide angle lens (other lenses available)
- Integral second camera (provides contextual images)

Additional illumination, system mounting options, PC hardware, and a selection of alternative camera lenses allow you to expand upon the standard Crime-lite®Imager in order to build a system to meet your application requirements.





Having selected 'Fingerprints - PolyCyano UV' from the menu, the system performs 5 pre-defined examinations



1

Place evidence under the Crime-lite® Imager

2

Select evidence type from drop-down menu

3

Press 'Run' View Results

### Easy-to-use software performs complex enhancement routines

Integral to the design of the Crime-lite® Imager is the inclusion of easy-to-use software that provides sophisticated image processing and enhancement tools to uncover hidden detail within images.

Using the semi-automatic mode of operation, effective imaging and enhancement can be achieved by selecting a pre-set evidence type from the drop down menu. An image of the evidence is then captured under pre-defined illumination settings and automatically enhanced before displaying results as selectable thumbnails.

Alternatively, in the systems advanced mode, the operator takes full manual control of the Crime-lite® Imager, selecting lighting and filters as well as applying image enhancement processes from the library of programmes.

- .Fingerprints - Cyanoacrylate
- .Fingerprints - DFO
- .Fingerprints - Fluorescent Powder
- .Fingerprints - Gentian Violet
- .Fingerprints - Impressions
- .Fingerprints - Untreated Prints
- .Fingerprints - Lifts
- .Fingerprints - Ninhydrin
- .Fingerprints - PolyCyano UV
- .Fingerprints - Rhodamine 6G
- .Fingerprints - Silver Nitrate
- .Fingerprints - White Powder
- .General - Contrast
- .General - Fluorescence
- .Other - Accelerants
- .Other - Blood Spatter and Stains
- .Other - Body Fluids

Select evidence type from a drop-down menu

## Crime-lite® Imager System Specification

Order Code: QCL/CI/01



Primary Image Capture	5MP camera	<ul style="list-style-type: none"> <li>• UV-Vis-IR sensitive</li> <li>• High speed GigE connectivity</li> </ul> <p><i>For full camera specification please contact sales@fosterfreeman.com</i></p>
	35 mm lens	<ul style="list-style-type: none"> <li>• 35mm focal length</li> <li>• 62mm x 52mm field of view</li> </ul>
Contextual Imaging	2MP colour video camera	<ul style="list-style-type: none"> <li>• Autofocus</li> <li>• 240mm horizontal field of view</li> </ul>
Camera Lens Filters	Long pass filters	<ul style="list-style-type: none"> <li>• 400nm, 455nm, 495nm, 530nm, 550nm, 570nm, 590nm, 610nm, 630nm, 645nm, 665nm, 695nm, 715nm, 780nm, 850nm</li> </ul>
	Short pass filters	<ul style="list-style-type: none"> <li>• 730nm, 660nm, 610nm and 550nm</li> <li>• Polarising filter</li> </ul>
Illumination	Multi-wavelength ringlight	<ul style="list-style-type: none"> <li>• 32x high efficiency LEDs providing</li> <li>• 4x White 400-700nm</li> <li>• 4x UV 350-380nm</li> <li>• 4x Violet 395-425nm</li> <li>• 4x Blue 420-470nm</li> <li>• 4x Blue/Green 445-510</li> <li>• 4x Green 480-560nm</li> <li>• 4x Orange 570-610nm</li> <li>• 4x Red 600-660nm</li> </ul>
	UV/IR illumination	<ul style="list-style-type: none"> <li>• 4x 20W VIS/IR capsule lamps</li> </ul>
	Safety	<ul style="list-style-type: none"> <li>• Classified to European safety standard risk group 2 (IEC/EN 62471:2008)</li> </ul>

### Additional Camera Lens Options

#### 25mm Lens

Order Code: QCL/CI/02

- 25mm f/1.6 wide-angle lens
- FOV 97mm x 81mm
- Resolution 650 pixels/inch

#### 50mm Lens

Order Code: QCL/CI/03

- 50mm f/1.8 narrow-angle lens
- FOV 42mm x 35mm
- Resolution 1500 pixels/inch

#### 25mm Quartz Lens

Order Code: QCL/CI/22

- For UV imaging 230-400nm
- FOV 97mm x 81mm
- Resolution 650 pixels/inch

### PC Hardware Options

#### Desktop PC

Order Code: QCL/CI/10

- Windows 10
- For current specification please contact sales@fosterfreeman.com

#### 24" Monitor

Order Code: QCL/CI/11

- 24" widescreen display
- Resolution: 1920 x 1200

#### Laptop PC

Order Code: QCL/CI/09

- 17" display
- For current specification please contact sales@fosterfreeman.com

### System Mounting Options

#### Bench Mount Stand

Order Code: QCL/CI/06

- Fits over existing work surfaces
- H44 x W850 x D820mm
- Magnetic work top
- Requires motorised column (QCL/CI/05)

#### Floor Stand

Order Code: QCL/CI/09

- Structural aluminium frame
- H720 x W850 x D722mm
- Magnetic work top
- Requires motorised column (QCL/CI/05)

#### Motorised Column

Order Code: QCL/CI/05

- 1.5m adjustable column
- Up to 1030mm vertical travel
- Focus adjustment control
- 24V-DC motor

#### Portable Stand

Order Code: QCL/CI/04

- Lightweight aluminium stand
- H365 x W376 x D281mm
- Includes adjustable article stand
- Weight 1.5kg

#### Carry Case

Order Code: QCL/CI/08

- Holds Crime-lite® Imager, portable stand and accessories

*foster + freeman reserve the right to alter the specification of the Crime-lite® Imager or any accessories without prior notice.*

## Examination Accessories

### Optional Light Sources

#### FLS Light Source

Order Code: QCL/CI/12

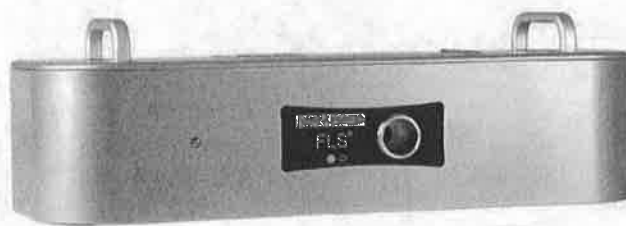
- 100W Vis/IR halogen lamp
- Continuous narrowband illumination 400-1000nm
- Continuous bandpass filter
- Requires additional light guides

This continuous 400-1000nm narrowband light source, used in conjunction with fibre optic light guides, provides specific wavelengths of light for improved contrast imaging and removal of interfering backgrounds.

Specialist light guides provide backlight, coaxial and oblique lighting for the examination of fingerprints on difficult surfaces such as reflective, curved or dusty surfaces or as 3-D impressions in soft materials.

#### FLS Light Guides

- |                                      |           |
|--------------------------------------|-----------|
| <b>1 Ring light</b>                  | QCL/CI/13 |
| Diffuse uniform illumination         |           |
| <b>2 Coax light box</b>              | QCL/CI/15 |
| Illumination for reflective surfaces |           |
| <b>3 Dark field ring light</b>       | QCL/CI/16 |
| 360° oblique illumination            |           |
| <b>4 Transmitted Light</b>           | QCL/CI/18 |
| Transmitted and side lighting        |           |
| <b>5 Dual Gooseneck</b>              | QCL/CI/19 |
| Directional side lighting            |           |
| <b>6 Linelight</b>                   | QCL/CI/20 |
| Low angle oblique lighting           |           |



### Optional Examination Accessories

#### Cylindrical Surface Unwrapper (CSU)

Order Code: QCL/CI/CSU

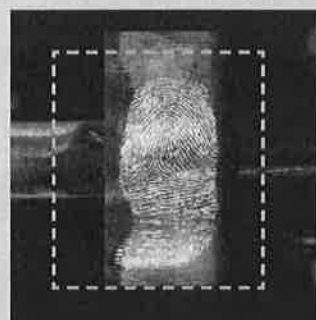
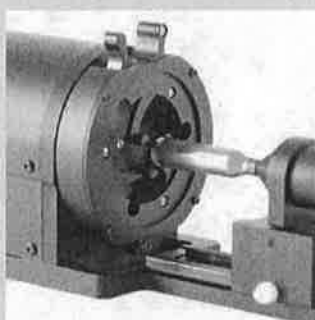
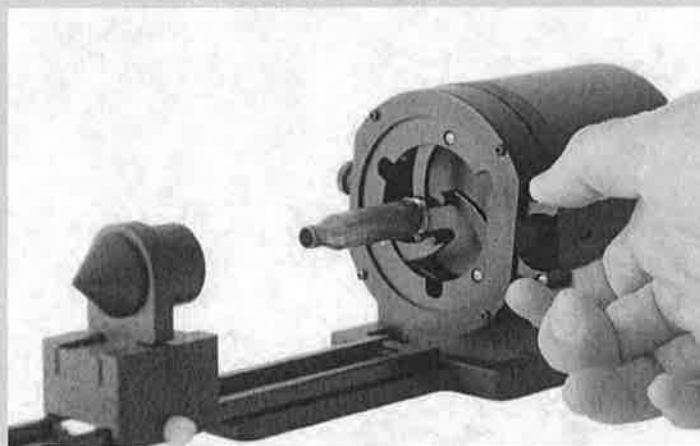
- Evidence clamping jaws
- Reversible alignment guide
- H110 x W85 x L330mm
- USB connectivity

'Un-wrap' 2D images of fingerprints on 3D objects including bullets, pens, tools & syringes etc.

An innovative new accessory for the Crime-lite®Imager, the Cylindrical Surface Un-wrapper (CSU) enables the forensic examiner to extract 2D images of fingerprints from a 3D cylindrical surface.

Designed to capture high quality images of fingerprints from the cylindrical surfaces of bullet casings, pens and handtools etc., the CSU uniformly rotates items of evidence while the attached Crime-lite®Imager or DCS workstation captures, stitches and blends a series of images together to create a single 2D image of the fingermark.

Using the CSU, items of evidence that had previously presented a significant challenge to forensic photographers can now be quickly and easily 'unwrapped' for examination and enhancement.



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46030 Manekin Plaza | Suite 170 | Sterling | VA 20166 | USA  
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**foster+freeman**

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46030 MANEKIN PLAZA, SUITE 170  
STERLING, VA 20166  
TEL: 888 445 5048  
FAX: 888 445 5049  
E-Mail: usoffice@fosterfreeman.com  
Federal Tax ID No 56-2316954  
GST/HST No. 81939 6300 RT0001

Your Reference Crime-Lite Imager

Our Reference C104053 - USA

Quote Reference Q149535

Date Monday, April 17, 2017

City of Denton Police Dept.  
601 E. Hickory  
Suite E  
Denton TX 76205  
USA

Attention: Ms. Donna Krouskup

**QUOTATION Q149535 - FOR THE SUPPLY OF:**

LINE	PRODUCT DESCRIPTION	QTY	UNIT PRICE	SUB TOTAL
1	<b>CRIME-LITE IMAGER (QCL/CI/01) HIGH RESOLUTION, HIGH SENSITIVITY CAMERA SYSTEM WITH INTEGRATED LIGHTING</b>	1	US\$33,172.49	US\$33,172.49

**Lighting:**

- 32 high efficiency surface mount LEDs, configured in a ring light for even illumination of up to 98 colour combinations comprising:
  - 4 x white LED 400-700nm, 10 levels of intensity and 10 colour temperature settings
  - 4 x UV LED peak at 365nm, 10% intensity bandwidth of 350-380nm, dual run indicators with key switch safety isolation
  - 4 x violet LED peak at 410nm, 10% intensity bandwidth of 395-425nm
  - 4 x blue LED peak at 445nm, 10% intensity bandwidth of 420-470nm
  - 4 x blue/green LED peak at 475nm, 10% intensity bandwidth of 445-510nm
  - 4 x green LED peak at 520nm, 10% intensity bandwidth of 480-560nm
  - 4 x orange LED peak at 590nm, 10% intensity bandwidth of 570-610nm
  - 4 x red LED peak at 640nm, 10% intensity bandwidth of 600-660nm
  - 4 x 20W VIS/IR halogen capsule lamps
  - focus assistance laser system (Class 1)
- Classified to European safety standard risk group 2 (IEC/EN 62471:2008)

**Camera:**

- 5 Megapixel monochrome camera, 2452 x 2056 pixels, capable of producing full colour composite images
- 14 bit monochrome sensitivity from 300-1100nm (NB. system sensitivity limited to 400-1100nm with standard lens, 300-1100nm with UV quartz lens)

**PAGE 2 OF QUOTATION Q149535**

- up to 9 frames per second
- high speed GIGE connectivity

**Lens:**

35mm focal length providing field of view of 62mm x 52mm at resolution of 1000 pixels/inch  
(includes brass spacer)

**Camera filters:**

- long pass filters at 400nm, 455nm, 495nm, 530nm, 550nm, 570nm, 590nm, 610nm, 630nm, 645nm, 665nm, 695nm, 715nm, 780nm, 850nm
- short pass filters at 730nm, 660nm, 610nm and 550nm, plus polarising filter

**Miscellaneous:**

- 2MP colour autofocus video camera with 240mm horizontal field of view for capturing overview images of the evidence
- camera enclosure with 2 camera mounting positions and rapid release cover for lens changes
- 3/8" threaded mounting face
- slot-in fluorescence contrast plate (prevents auto-fluorescence)
- full software suite included

<b>2</b>	<b>DESKTOP COMPUTER FOR CRIME-LITE IMAGER (QCL/CI/10)</b>	1	US\$1,678.78	US\$1,678.78
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**Computer (Minimum Specification):**

Intel Quad (Q9400) or i5 equivalent

4GB RAM

2 x 500GB SATA HDD

DVD RW Drive

6 x USB 2.0 ports rear

- network interface Integrated Gigabit (10/100/1000) via RJ45 connector

- min 512MB Graphics Adaptor (on board or Card)

- minimum display connection VGA

- multimedia Card Reader

- Windows 10

- wired USB plus Wireless USB Optical Scroll Mouse

<b>3</b>	<b>MONITOR 24" FOR CRIME-LITE IMAGER (QCL/CI/11)</b>	1	US\$600.00	US\$600.00
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- widescreen flat panel monitor

- resolution: 1920 x1200

- contrast ratio: 1000:1

- inputs connections: DisplayPort, DVI, VGA

- power: 120/230V, 50/60 Hz

<b>4</b>	<b>BASIC RSD COPY STAND FOR CRIME-LITE IMAGING SYSTEM (QCL/CI/27)</b>	1	US\$1,673.26	US\$1,673.26
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- RSD 5602 stand for the Crime-lite imager.

- height of column: 1.20 m (3.9 ft.)

- column cross section: 105 x 74 mm (4.1 x 2.9 in.)

- loading capacity: 8 kg (17.6 lbs.)

- camera mounting plate: 130 x 78 mm (5.1 x 3.1 in.)

- reversing mounting thread: 1/4" / 3/8" changeable

- hand-cranked, rack-and-pinion height adjustment, additionally counter-balanced by a built-in coil spring. Blocking screw to stop accidental changing of height 1.2meters long



Total value of goods: US\$37,124.53

2 day(s) on site installation and training. Cost is inclusive of travel and accommodation expenses. US\$3,500.00

Shipping & Handling \$350.00

**TOTAL PRICE USD US\$40,974.53**

**DESPATCH PERIOD:** (FROM FACTORY) Approx 8 weeks from receipt of order

**TERMS OF DELIVERY:** Price includes packing and delivery to lab, excluding local sales tax.

**TERMS OF PAYMENT:** Nett 30 Days from date of invoice  
Please note that a surcharge of 3% will apply to all credit card payments

**BANK DETAILS:** United Bank, McLean, VA. Routing No. 056004445, Foster & Freeman USA Inc., Account No. 70061289

**WARRANTY:** One year from date of installation

**VALIDITY:** This quotation is valid until 17 July 2017

*The above prices are in US Dollars and are only valid for equipment supplied and installed within the USA and Canada.*

**SIGNED:**

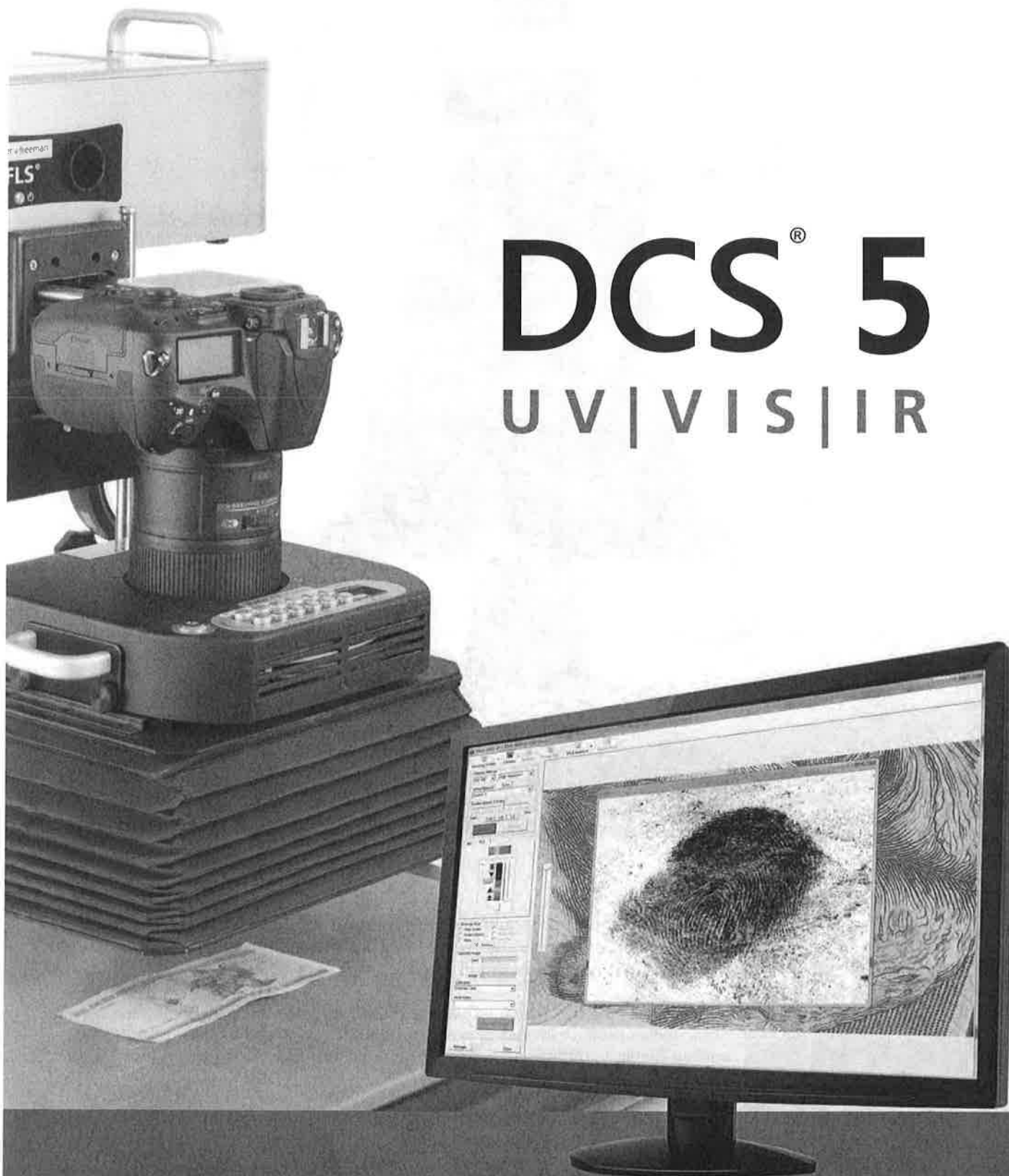
David Tobin  
President

foster + freeman

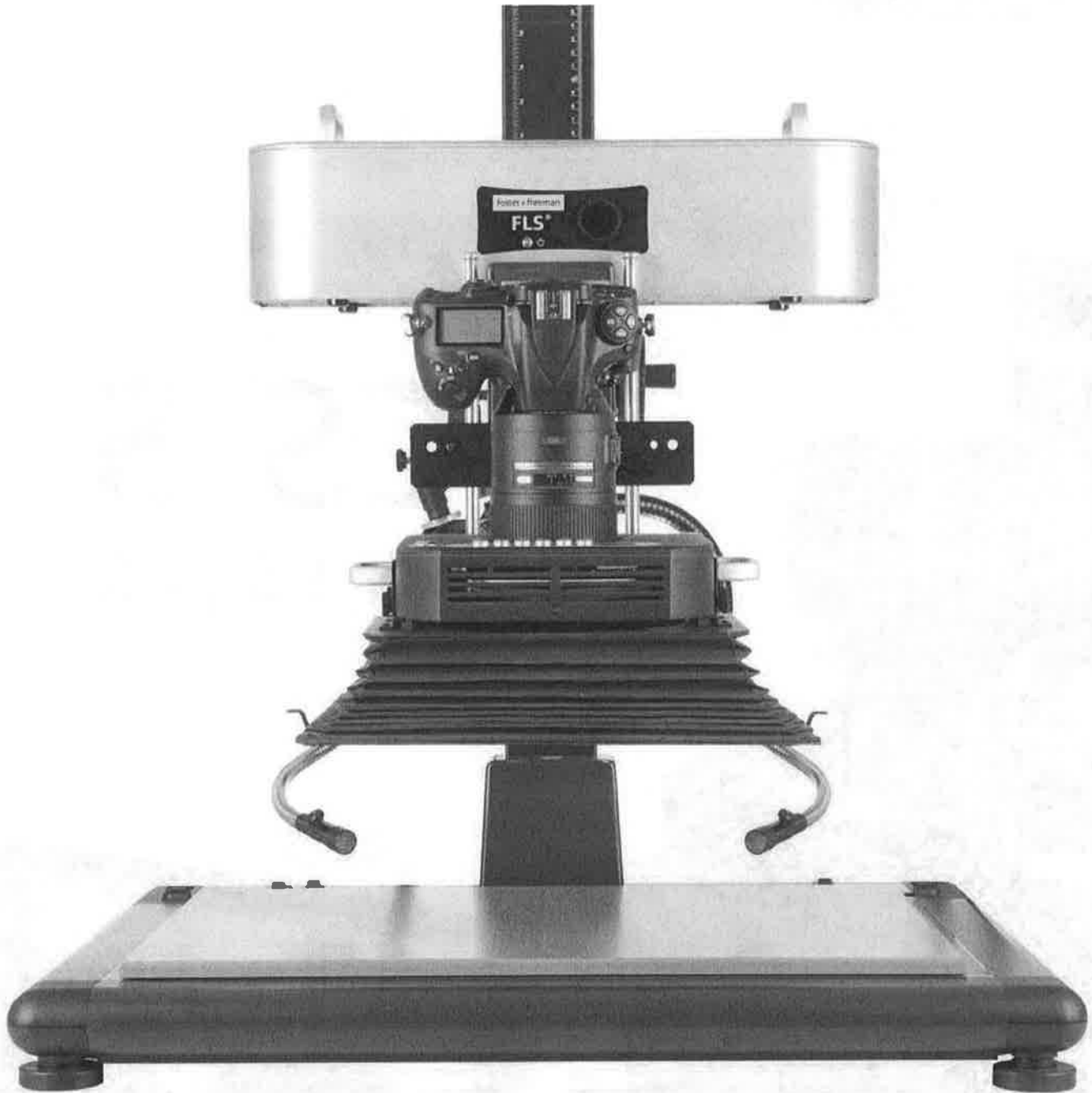
Advanced fingerprint capture & enhancement

# DCS<sup>®</sup> 5

UV | VIS | IR



## Advanced fingerprint capture & enhancement



**DCS<sup>®</sup>**  
UV|VIS|IR

**5**

DCS 5 is a comprehensive imaging system for the detection, capture and enhancement of almost any type of fingerprint on any surface or background to ensure that maximum detail is revealed.

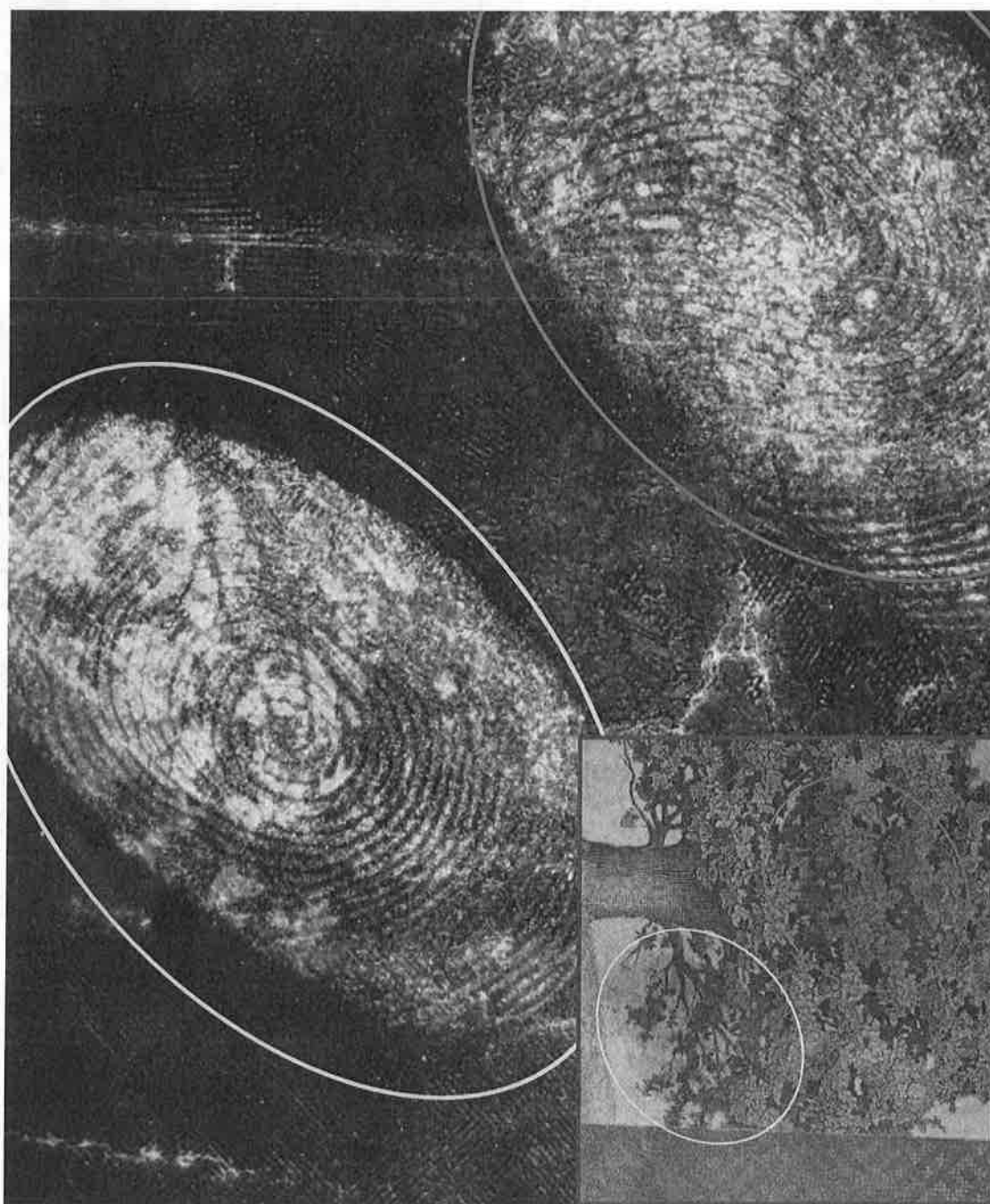
Not only does the DCS 5 high resolution, 36.3MP camera fitted with application specific macro lenses produce images of exceptional quality, advanced digital enhancement, applied simply, maximises print detail to improve the value of evidence.

Precise wavebands of illumination from UV through the visible to IR are provided to improve the visualisation of every type of fingerprint whether it be latent, contaminated or chemically treated.

# DCS<sup>®</sup> 5

Advancing the Science of Fingerprint Detection

DCS 5 reveals fingerprints on a densely patterned banknote dusted with *fp*NATURAL 1, Foster + Freeman's new IR fluorescent powder



# DCS<sup>®</sup>5

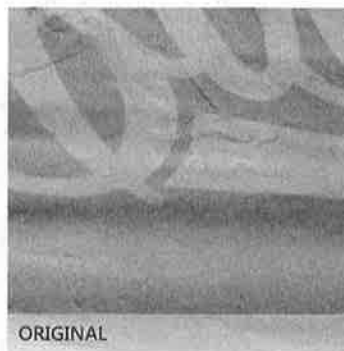
## Imaging Techniques

### Fluorescence Imaging

Many latent fingerprint treatments such as Ardrex, DFO, BY40 and fluorescent powders fluoresce under specific wavelengths of light.

Using the DCS 5 multi-wavelength ring light an operator is able to select the optimum wavelength to generate the maximum intensity of fluorescence for each type of treatment.

*Plastic bag treated with Polycyano UV and examined under UV illumination.*



### Infrared Imaging

Interfering backgrounds may be suppressed appearing white as they reflect IR whereas some chemical treatments such as Physical Developer and certain powders absorb IR and appear black.

Foster + Freeman's new fingerprint dusting powder 'fpNatural 1' fluoresces brightly in the infrared when illuminated with red light. Its application has the advantage of eliminating interference from most backgrounds which rarely fluoresce at this wavelength.

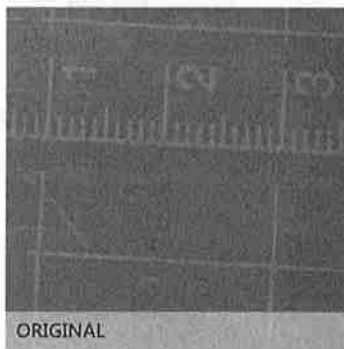
*Polymer banknote treated with fpNatural 1 IR Fluorescent Powder, illuminated with red light using the Crime-lite 8x4Mk4 and viewed in the IR.*



### Reflected longwave UV Imaging

Many surfaces such as glass and plastics absorb UV and appear black, which improves the visibility of both treated and untreated latent prints which often reflect UV. Images can then be significantly enhanced using the DCS5 software.

*Untreated latent fingerprint on clear perspex. Perspex appears black when illuminated and viewed under UV revealing the fingerprint which reflects UV.*



### Flexible directional lighting

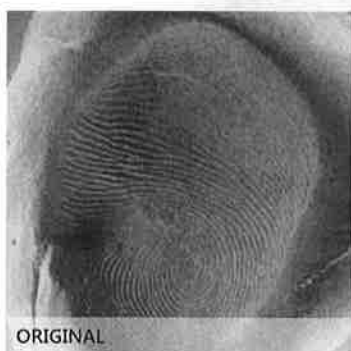
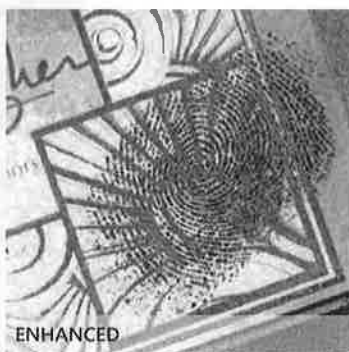
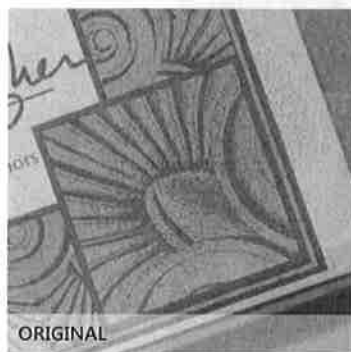
A high intensity halogen or interference light source fitted with a range of fibre optic light guides provide backlight, coaxial and oblique lighting for the examination of fingerprints on difficult surfaces such as reflective, curved or dusty surfaces or as 3-D impressions in soft materials.

*Using a dark field ring light to illuminate a 3-D fingerprint in soft putty.*



# DCS<sup>®</sup> 5

## Enhancement Software



### Digital Enhancement

An integral part of DCS 5 is the easy-to-use software that provides sophisticated image processing and enhancement tools to uncover hidden detail within images.

Operated via simple drop down menus, DCS 5 enhancement software enables the operator to remove textured or 'difficult' backgrounds as well as enhance prints developed using a variety of chemical treatments, dyes, stains and dusting powders including the new IR powder. Each toolbox offers the operator 'tried & trusted' enhancement programmes that enable complex processing routines to be performed with a single button press.

*Ninhydrin developed fingerprint on a multicoloured patterned background. DCS 5 enhancement software can improve the clarity of fingerprints by removing or reducing backgrounds.*

*Fingerprint illuminated with the dark field ring light and enhanced using the dedicated 3-D enhancement software.*

### Image Validation & Audit Trail

Encryption software protects all original fingerprints captured by the system. Images that are enhanced or processed in any way automatically lose their status of authenticity with full details of each process being recorded in a detailed Audit Trail.

Essential when presenting courtroom evidence, audit trails detail every step taken during the capture and enhancement process together with information about the operator, computer and software used to perform enhancements. Audit Trail descriptions are in simple to follow language to aid presentation.

### Interactive Guidance

DCS Wizard provides an interactive step-by-step guide to achieving consistently high quality images of fingerprints.

By following intuitive steps to select the exhibit type, surface type, chemical processes, and background data the user will be presented with suggestions on the lighting, filters, excitation wavelengths and camera settings required to achieve the optimum print definition and contrast every time.

### Comparison & AFIS Search

An optional software module enables the user to display two fingerprint images, side-by-side, for comparison and enhancement.

Providing intuitive control of image zoom, orientation and visual enhancements, the module provides a practical digital alternative to the traditional manual method of fingerprint comparison.

In addition, the module provides an affordable AFIS capability allowing users to create and manage databases of up to 5,000 records.

1:n and 1:1 fingerprint searches are fast and effective, saving days of manual search time.





# DCS<sup>®</sup>5

## System Components

### 1 Camera

#### custom-modified digital SLR camera

In order to achieve excellent image quality, the DCS 5 has been built around a pro-grade DSLR camera customised by Foster+Freeman for UV-Vis-IR imaging applications.

Setting new standards for image quality, the Nikon D810 includes a new large format image sensor and a powerful image processing engine that work together to produce images of exceptional clarity.

### Lenses

A choice of specialist lens provides greater control of the image captured by the camera.

### 2 105mm Vis-IR Macro Lens

#### for general imaging

Focusing up to 1:1 life size in auto or manual focus modes images remain sharp at every distance.

### 3 60mm UV Transmitting Lens

#### for reflected UV imaging

This quartz/fluorite lens, is essential for Reflected UV Imaging but also provides excellent results in the visible and IR.

### 4 85mm Vis-IR Tilt/Shift Lens

#### for depth of field control

With a revolving capability of + or - 90 degrees this high performance lens enables selective focussing of images across different focal planes in the visible and IR wavelengths.

### 5 Copy Stand & Accessories

#### for accurate, repeatable image alignment

Professional photographic copy stand includes a 1.2m column and transmitted light base.

Accessories include camera lens bellows and variable friction light source mounts

1



2



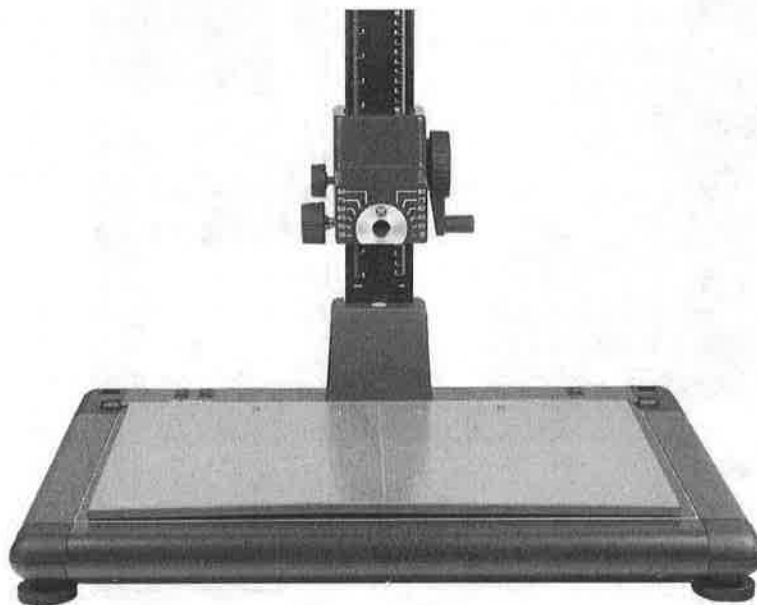
3



4



5



# DCS<sup>®</sup>5

## System Components

1



2



### 1 Multi-wavelength Ring Light

The Crime-lite 8x4Mk2 provides intense white, UV, violet, blue, blue/green, green, orange and red narrow waveband light for visible and fluorescent image examinations.

### 2 Halogen Light Source Package

Intense 150W light source with 5 coloured filters for general contrast imaging. To be used in conjunction with the fibre optic light guides for directional lighting on any surface type.

3



### 3 Forensic Light Source (FLS)

A continuous 400-1000nm narrowband light source used in conjunction with the fibre optic light guides provides specific wavelengths of light for improved contrast imaging and removal of interfering backgrounds.

4



### 4 IR Imaging Crime-lite 8x4Mk4

A specialized LED ring light providing intense blue and red light for generating infrared fluorescence from specialist dusting powders such as fpNatural 1. Also includes near-IR 'light' for examining fpNatural 2 powder and fingerprints in blood or treated with Physical developer or Powders.

5



### 5 UV Light Source

The Crime-lite 82S fitted with 16 UV LEDs. Provides more intense UV at 365nm for generating fluorescence from treated fingerprint images and reflected UV images.

6



### 6 Fibre Optic Light Guides

Flexible directional light guides to illuminate any evidence type;

#### Ring Light

Diffuse, uniform illumination for flat items such as paper, banknotes or coloured plastic.

#### Backlight/Paddle Light

For transmitted illumination for lifts, clear plastic, cellophane or for specular illumination for prints on reflective surfaces.

#### Darkfield Ring Light

360° oblique illumination for 3D impressions in soft materials.

#### Twin arm Goosenecks

Dual directional illumination for curved or reflective surfaces.

#### Coaxial Light

For reflective surfaces including mirrors & CD's.

# DCS<sup>®</sup> 5

## SYSTEM DESIGN

### BY APPLICATION

In order to accommodate the differing requirements of fingerprint laboratories worldwide, **DCS 5** is a modular system that can be expanded through the addition of application specific modules.

The **DCS 5 core** provides a complete solution to the capture and enhancement of fingerprints within the visible spectrum and includes a Windows PC running the DCS 5 Software, a pro-grade photographic copy stand and a selection of light guide clamps and mounts.

Additional modules can be selected to provide IR, Reflected UV and Shift/Tilt Imaging capabilities.

#### DCS 5 core

System Components & Product Order Codes

##### image capture

Nikon D810  
- Custom-modified camera  
- 36.3million effective pixels  
- 35.9 x 24mm CMOS sensor

DCS5/CAM

105mm Macro Lens  
- for visible imaging  
- Anti-reflection lens coating

DCS4/LENS/AF105

##### Imaging Filters

- Circular Polarizing Filter  
- Visible Pass Filter  
- 715nm IR Imaging Filter  
- 780nm IR Imaging Filter  
- 850nm IR Imaging Filter  
- 1000nm IR Imaging Filter

DCSS/CPF2  
DCSS/VPF2  
DCSS/IRF1  
DCSS/IRF2  
DCSS/IRF3  
DCSS/IRF4

##### illumination

Halogen Light Source  
- 150W halogen lamp  
- Variable dimmer control  
- Supplied with light guide

DCS4/LIGHT3/62

+ Darkfield Light Box  
+ A4 Line Light

DCS4/LTDARK  
DCS4/LTLINE

Multi-waveband Ring Light  
- 32x high intensity LEDs  
- White, UV, Violet, Blue, Blue/Green, Orange and Red illumination  
- Includes power adaptor

QCL/231x8/KIT

+ Imaging Filters

QCL/232x8/SET

##### DCS 5 essentials

Pro-Grade Copy Stand  
+ Ring Light Mount  
+ Camera Filter Pouch  
+ Camera Filter Step-ring

DCS4/STAND  
QCL/144x8/ASSY  
QCL2/012  
QCL/212

##### Desktop PC

+ 24" Monitor  
+ Photo Printer

DCS4/COMP  
DCS4/MON24W  
DCS4/PRIN/CP9600

DCS 5 Software  
+ Image Pro Analyser  
+ VeriData iDem

DCSS/MODULE  
DCS4/PA  
DCS4/IDEM

##### DCS 5 Wizard

DCSS/WIZARD

##### DCS Photography Pack

DCSL/075

#### Application specific modules

##### +Infrared Imaging

N-IR Imaging Ring Light DCS5/SYS/8x4MK4  
- Blue, Red and N-IR LED illumination  
- 715, 780, 850, 900nm Viewing Filters  
- Includes power adaptor  
- Sample of fpNatural1 IR fingerprint powder  
- Sample of fpNatural2 NIR fingerprint powder

Forensic Light Source (FLS) DCS5/SYS/FLS  
- 100W halogen lamp  
- 400-1000nm continuous bandpass filter  
- Supplied with light guides

##### +Reflected UV Imaging

60mm UV Transmitting Lens DCS5/LENS/UVIR  
- Macro lens with 310-1100nm transmission  
- Manual focusing  
+ 330-385nm bandpass filter  
+ Circular Polarizing Filter DCS5/CPF3  
+ Visible Pass Filter DCS5/VPF3  
+ Optional IR Filter Step-ring DCS5/SUR52/72

UV Light Source QCL/825/UV2  
- 16x 365nm LED illumination  
+ Power adaptor QCL/80  
+ Variable Friction Arm DCSL/041  
+ 2x Super Clamps DCSL/042  
+ Heavy Duty Flexible Arm DCSL/043

##### +Shift/Tilt Imaging

85mm Shift/Tilt Lens DCS4/LENS/PCE85  
- Maximum shift: ±12.4 mm  
- Maximum tilt: ±8.3 mm  
- Supplied with macro extension tubes  
+ Circular Polarizing Filter DCS5/CPF1  
+ Visible Pass Filter DCS5/VPF1  
+ Optional IR Filter Step-ring DCS5/SOR77/72

##### +Comparison & Search

FCS Software Module DCS5/FCS  
- Side-by-side analysis tool  
- Create and search against databases

To request a formal DCS 5 sales quotation, please contact your local Foster + Freeman sales representative providing details of the modules you would like to add to your system.

foster + freeman

fosterfreeman.com

Head Office, UK Sales Office  
Vale Park | Evesham | WR11 1TD | United Kingdom

Tel: +44 (0)1386 768 050 | sales@fosterfreeman.com

USA Sales Office  
36030 Manekin Plaza | Suite 170 | Sterling | VA 20166 | USA

Tel: 888 445 5048 | usoffice@fosterfreeman.com

**FOSTER AND FREEMAN USA Inc**  
 46030 MANEKIN PLAZA, SUITE 170  
 STERLING, VA 20166  
 TEL: 888 445 5048  
 FAX: 888 445 5049  
 E-Mail: usoffice@fosterfreeman.com  
 Federal Tax ID No 56-2318854  
 GST/HST No. 81939 6300 RT0001

**Your Reference** DCS5

**Our Reference** C104053 - USA

**Quote Reference** Q149534

**Date** Monday, April 17, 2017

City of Denton Police Dept.  
 601 E. Hickory  
 Suite E  
 Denton TX 76205  
 USA

Attention: Ms. Donna Krouskup

**QUOTATION Q149534 - FOR THE SUPPLY OF:**

LINE	PRODUCT DESCRIPTION	QTY	UNIT PRICE	SUB TOTAL
1	DCS5 STAND, SOFTWARE, COMP, MON, PRINTER & 8x4 MOUNT (DCS5/KIT/001)	1	US\$40,229.02	US\$40,229.02

**NOTE:**

IF CRIME-LITE 8x4 IS NOT REQUIRED THEN QCL/142x8 and QCL/143x8 CAN BE REMOVED  
 BUT THE CAMERA MOUNT QCL/141x8 IS STILL REQUIRED

**COPY STAND AND COLUMN (DCS4/STAND)**

Free-standing copy stand

- Transmitted light base, 430 x 350mm, fitted with four 13 watt daylight, high frequency fluorescent lamps for even illumination.
- 1.2m column with weight compensation and gear rack height adjustment. NOTE: supplied without camera arm
- Removable base plate with magnetic bars for holding exhibits
- Dust cover
- Incident lighting not included

**ADJUSTABLE COPY STAND MOUNT FOR CRIME-LITE 8x4 AND CAMERA (QCL/144x8/ASSY)**

- Modified Kaiser camera arm with Crime-lite 8x4 base bracket
- QCL/143x8, Crime-lite 8x4 mount QCL/142x8 and camera mount QCL/141x8
- Allows fully independent adjustment of camera and Crime-lite 8x4
- Suitable for Kaiser's R1 System of columns only
- Suits most SLR camera and lens combinations

**DCS5 FINGERPRINT CAPTURE AND ENHANCEMENT SOFTWARE WITH AUDIT TRAIL (DCS5/MODULE)**

Software:

Integrated software for fingerprint image capture, validation,

enhancement through to final printing at 1:1

- Dedicated application specific toolboxes to simplify the enhancement of fingerprint images. Each toolbox provides enhancements specific to different types of fingerprint treatments and/or backgrounds. Additional enhancement tools are provided for advanced users
- Optional Photographic and Chemical Treatment Wizard is also available. Other optional software modules will be offered when available
- Full forensic audit trail in simple language covering full history of image from image origin to image output
- Automatic image authentication using 'VeriData iDem'
- User defined case work management ensures all related images and support files are stored together
- Archive management allowing backup to CDs, DVDs and network locations. Monitoring of archive status ensures archiving is up to date
- Pre-calibrated and custom 1:1 image printing with options to print enlargements and non-standard image sizes
- Simplified image calibration with auto image magnification with for accurate scaling
- Customised enhancement for third level fingerprint examination, this process will highlight pore and ridge detail giving clear visibility of pore and ridge positions and shapes.
- Image annotation allowing for the marking of characteristics in fingerprint images.
- Simultaneous image output to multiple locations including local printers, AFIS and Minilab
- Administrator settings control allowable user activities
- Monitor resolution: 1920 x 1200 recommended, 1600 x 900 minimum
- Operating system: Windows 7 64bit.
- Available languages: English (others languages can be provided at extra cost).

Camera control:

- Supported camera, NIKON D5/DX810 modified for colour/UV and IR imaging
- Full spectrum, live view, full screen viewing of all images from UV to IR (depending on lens selection)
- Live view auto and manual tuning of camera white balance
- Mirror Up camera mode supported
- Capture preview images as tiff files supported from the camera interface

Light source support:

- Full on-screen control of Crime-lite 8x4 (MK2 and MK4)
- Full on-screen control of Crime-lite FLS

NOTE: DCS5/MODULE WILL SUPPORT THE D700 CAMERA -  
LIVE IMAGE MODE IS NOT AVAILABLE  
(The D3, D3S, D3X are also supported but have no LIVE view)

DCS5 PHOTOGRAPHIC AND CHEMICAL TREATMENT WIZARD  
(DCS5/WIZARD)

Simple to use wizard to guide users through the choices of suitable internationally recognised chemical treatments and photographic techniques for a wide variety of surface and exhibit types.

The results provide illustrated information on the suggested chemical treatments and full instruction on the photographic lighting techniques and camera settings to use for effective fingerprint photography.

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Available languages: English. Others languages can be provided at extra cost.

**DCS5 COMPUTER SYSTEM (DCS5/COMP)**

Computer (Minimum Specification):

i7 equivalent

8GB RAM

2 x 1TB SATA HDD

DVD RW Drive

6 x USB 2.0 or 3.0 ports rear

Network interface Integrated Gigabit (10/100/1000) via RJ45 connector

Min 512MB Graphics Adaptor (on board or Card)

Minimum display connection VGA

Multimedia Card Reader

Windows 10 64 Bit

Wired USB plus Wireless USB Optical Scroll Mouse

**32" 4K MONITOR FOR DCS5 (DCS5/MON32)**

- 4K monitor with UltraColor

- 32" (viewable 31.5"/80cm

- 4K UHD (3480 x 2160)

**IMAGE-PRO ANALYZER SOFTWARE (DCS4/IPA)**

Image processing software required as part of DCS 4 or 5 installation

Version 6.3.0.512 supplied on CD for compatibility with DCS 4

Licence and hasp valid for version 7.x and lower

Available languages: English

**VERIDATA IDEM VALIDATION SOFTWARE (DCS4/IDEM)**

VeriData iDem version 3.00 or later

Provides validation and authentication of original digital images

Available languages: English. Others languages can be provided at extra cost.

Compatible with DCS5

**PHOTOGRAPHIC ACCESSORY PACK (DCSL/075)**

Comprising:

Photographic Blackout Cloth (DCSL/049)

- Black rubberised fabric for reducing unwanted ambient light during photography

- Size 1.5m (60") x 1.35m (72") approx.

Air Blower (DCSL/072)

- For removing dust from lenses and camera filters

Lens Cloth (DCSL/073)

- High quality cleaning cloth ideal for lenses, LCD screens etc.

- Washable and supplied in a rigid plastic case

Lens Cleaning Wipes (DCSL/074)

- Pack of disposable, lint free wipes for cleaning lenses and camera filters

**FUJI ASK300 DIGITAL COLOUR PRINTER (DCS5/PRIN/ASK300)**

Printing Method: Dye-Sublimation Thermal Transfer

Gradation: 256 levels {8 bit} per colour (Y, C, M)

Operation for paper exchange: Semi-Auto loading

Virtual 600dpi using high quality and matt finish mode

Dimensions (W X D X H): 10.8 x 17.6 x 6.7in. (275 x 446 x 170mm)

Weight approx.: 12kg (26.4lb)

USB interface (rear side): High-Speed USB Ver.2.0 x 1 port (Type B)

Power consumption: 2.4A (220-240VAC, 50/60Hz), 4.6A (120VAC,

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**PAGE 4 OF QUOTATION Q149534**

50/60Hz)

EMC & Safety & Environment: EMC FCC / CE

6"x4" PAPER PRINTING PACK FOR FUJI ASK300 - 800 PRINTS  
(DCS5/PAPER/ASK300/46) (Quantity x 3)

FUJI T RK - CF800

- 2 x Paper rolls and ink ribbons for 400 prints per roll (total 800 prints)

- print size - 4"x6" (102mm x 152mm)

<b>2</b>	<b>NIKON D5 DIGITAL SLR CAMERA WITH P/SUPPLY &amp; LEADS FOR DCS5 (DCS5/KIT/002)</b>	<b>1</b>	<b>US\$11,209.05</b>	<b>US\$11,209.05</b>
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**NOTE:**

NIKON D810 CAN ALSO BE USED INSTEAD OF THE D5 BUT THE D5 IS BETTER FOR LOW LIGHT LEVELS ESPECIALLY NIR-NIR FLUORESCENCE. THIS PART INCLUDES D5 CAMERA, LEADS AND VIDEO CAPTURE DEVICE.

NIKON D5 DIGITAL SLR CAMERA WITH ACCESSORIES FOR DCS 5 (DCS5/CAM/D5)

- pre configured ready for DCS 5 use

Features include:

Megapixels 20.8

Sensor Format Full Frame

Sensor type CMOS

Sensor size 35.9 mm x 23.9 mm

Max Resolution 5568 x 3712

HD Movie mode 4k possible from separate monitor if required

1080 resolution embedded in DCS5 software

- modified to transmit from UV (365nm) to IR (1,000nm)

Other items included:

- cables and power adaptor

HDMI VIDEO CAPTURE DEVICE FOR D5 CAMERA  
(DCS5/LINDYVCD)

- HDMI PVR PC capture device

- seamless picture quality with USB3.0 bandwidth enabling you to capture 1080p video @ 60fps

- part number 2167977

HDMI TO MINI HDMI CABLE FOR D5 CAMERA  
(DCS5/LINDYHDMI)

- HDMI to mini HDMI, 2M long

- part number 41437

LINDY USB3.0 CABLE FOR D5 CAMERA (DCS5/LINDYUSB3)

- LINDY USB3.0 A to B cable, 2M long

- part number 41612

<b>3</b>	<b>3 x IR CAMERA FILTRS FOR DCS5 (DCS5/KIT/003)</b>	<b>1</b>	<b>US\$960.95</b>	<b>US\$960.95</b>
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**NOTE:**

IF THE FLS LIGHT SOURCE IS SELECTED THEN THESE THREE FILTERS MAY NOT BE REQUIRED.

FILTERS ARE FOR REFLECTANCE/ABSORPTION IMAGING IN THE NEAR IR.

IR CAMERA FILTER FOR DCS5 72MM WITH ANTI-GLARE COATING - 715NM (DCS5/IRF1)

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- schott RG715 long pass filter glass (1% cut-on wavelength at 693nm, nominal)
  - reflective long pass dielectric filter coating deposited on to Schott glass to suppress auto-fluorescent emissions of filter glass
  - maximum anti-glare performance when used with high power light sources
- (note: 70mm diameter glass fitted in 72mm diameter threaded holder)
- requires step down ring 77mm to 72mm for use with DCS4/LENS/PCE85 (DCS5/SDR77-72)
  - requires step up ring 62mm to 72mm for use with DCS4/LENS/AF105 or QCL273/ (QCL/212)
  - requires step up ring 52mm to 72mm for use with DCS5/LENS/UVIR (DCS5/SUR52/72)

NOTE: Adaptors are supplied with the individual lenses

IR CAMERA FILTER FOR DCS5 72MM WITH ANTI-GLARE COATING - 780NM (DCS5/IRF2)

- schott RG780 long pass filter glass (1% cut-on wavelength at 751nm, nominal)
  - reflective long pass dielectric filter coating deposited on to Schott glass to suppress auto-fluorescent emissions of filter glass
  - maximum anti-glare performance when used with high power light sources
- (note: 70mm diameter glass fitted in 72mm diameter threaded holder)
- requires step down ring 77mm to 72mm for use with DCS4/LENS/PCE85 (DCS5/SDR77-72)
  - requires step up ring 62mm to 72mm for use with DCS4/LENS/AF105 or QCL/273 (QCL/212)
  - requires step up ring 52mm to 72mm for use with DCS5/LENS/UVIR (DCS5/SUR52/72)

NOTE: Adaptors are supplied with the individual lenses

IR CAMERA FILTER FOR DCS5 72MM WITH ANTI-GLARE COATING - 850NM (DCS5/IRF3)

- schott RG850 long pass filter glass (1% cut-on wavelength at 815nm, nominal)
  - reflective long pass dielectric filter coating deposited on to Schott glass to suppress auto-fluorescent emissions of filter glass
  - maximum anti-glare performance when used with high power light sources
- (note: 70mm diameter glass fitted in 72mm diameter threaded holder)
- requires step down ring 77mm to 72mm for use with DCS4/LENS/PCE85 (DCS5/SDR77-72)
  - requires step up ring 62mm to 72mm for use with DCS4/LENS/AF105 or QCL/273 (QCL/212)
  - requires step up ring 52mm to 72mm for use with DCS5/LENS/UVIR (DCS5/SUR52/72)

NOTE: Adaptors are supplied with the individual lenses

CRIME-LITE 2 CAMERA FILTER POUCH (QCL2/012)

- camera filter pouch
  - model: A306
  - complete with belt loop, shoulder strap and protective divider for up to 7 filters
  - max filter diameter external 75mm
-

4	<b>ALL LIGHT GUIDES, RINGLIGHTS, BACKLIGHT &amp; CO-AX BOX (DCS5/KIT/004)</b>	1	US\$7,305.26	US\$7,305.26
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**NOTE:**

ALL THE ITEMS BELOW ARE COMPATIBLE WITH THE HALOGEN AND FLS LIGHT SOURCE, BOTH MAY NOT BE REQUIRED.

**RINGLIGHT (DCSL/024)**

- 4" Diameter
- Use with polariser ring DCSL/025 (supplied separately)
- Suitable holding bracket DCSL/047 (supplied separately)

**POLARISER RING (DCSL/025)**

- For use with 4" ring light DCSL/024
- Spare ball plungers available

**SCREWDRIVER FOR DCS (DCSL/061)**

- 2mm blade
- Use for adjusting polarising ring DCSL/025 on 4" ring light DCSL/024

**COMBINATION TWIN ARM GOOSENECK (DCSL/021)**

- 450 mm (18") gooseneck with 760 mm (30") bundle
- Use with focussing lenses and polarising caps (supplied separately)

**FOCUSSING LENS FOR GOOSENECK (DCSL/022) (Quantity x 2)**

**POLARSING FILTERS (DCSL/023) (Quantity x 2)**

- Fits over gooseneck focussing lens

**BACKLIGHT (DCSL/026)**

- Also known as Light Paddle
- 100 x 125 mm (4"x5") illuminated area
- Use with Colour Adaptor DCSL/027 (see below as listed as separate item)

**COLOUR ADAPTOR FOR BACKLIGHT (DCSL/027)**

- Must be used to prevent melting of light fibres when using colour filters
- Fits over protective IR filter on end of light bundle

**ALLEN KEY 1/16" (DCSL/062)**

- FEC155-2122
- Use for fitting colour adaptor DCSL/027

**DARK FIELD RINGLIGHT FOR TUNGSTEN HALOGEN LIGHT SOURCE (DCS4/LTDARK)**

- For radial oblique lighting for 3D indented fingerprint marks, e.g. in dust, putty or hot melt glue
- NSN 6240-99-348-2238

**SINGLE FLEXIBLE FIBRE BUNDLE FOR FLS OR POLYTEC (QCL/CI/14)**

- length 960mm
- connects to QCL/CI/15

Application: used for: flexible side illumination

**COAX LIGHT BOX FOR CRIME-LITE FLS OR POLYTEC LIGHT**

SOURCE (QCL/CI/15)  
 - must be used with QCL/CI/14  
 - field of view: 7 x 9cm, focal distance: 8cm  
 - dims, W: 170mm, L: 235mm, D: 70mm  
 Application: used for coaxial illumination

<b>5</b>	<b>CLAMP SETS FOR DCS5 LIGHT GUIDES &amp; CRIME-LITE 82S (DCS5/KIT/005)</b>	<b>1</b>	<b>US\$1,155.64</b>	<b>US\$1,155.64</b>
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NOTE:  
 THESE CLAMPS WILL HOLD ALL LIGHT GUIDES AND THE  
 CRIME-LITE 82S IF NEEDED

VARIABLE FRICTION ARM ONLY (DCSL/041)  
 - Total arm length 53cm  
 - For use with super clamps DCSL/042 (not supplied)

FLEXIBLE ARM ONLY (DCSL/043)  
 - Total arm length 53cm  
 - For use with super clamps DCSL/042 (not supplied)

SUPER CLAMP (DCSL/042) (Quantity x 2)  
 - For use with variable friction arm DCSL/041 or flexible arm  
 DCSL/043 (not supplied)

SMALL VARIABLE FRICTION ARTICULATED ARM ONLY  
 (DCSL/044)  
 - 6mm threads

CAST IRON BASE (DCSL/045)  
 - Base for attaching up to three support arms at once (not supplied)  
 - For arms with M6 threads only  
 - Weight 3.5 lb

SUPPORT HOLDING V CLAMP (DCSL/048)  
 - For general use with small variable friction articulated arm  
 (DCSL/044) for holding light attachments or clamping to bench  
 - Allows simple support and positioning  
 - M6 threaded holes

COMBINATION SPANNER 7MM TO FIX ARM (FEC188-9844)  
 - Combination spanner to secure arm to base

TOOL / STORAGE BOX FOR DCS (DCSL/060)  
 - Up to 17 compartments using removable dividers  
 - Size 395 x 305 x 60mm

<b>6</b>	<b>HALOGEN FIBRE OPTIC LIGHT SOURCE BOX &amp; COLOUR FILTERS (DCS5/KIT/006)</b>	<b>1</b>	<b>US\$1,461.58</b>	<b>US\$1,461.58</b>
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NOTE:  
 THIS UNIT WILL REQUIRE PART OF OR ALL OF DCS5/KIT/004  
 TO FUNCTION.

HALOGEN LIGHT SOURCE (DCSL/001/230)  
 - 150W halogen lamp controlled by solid state variable dimmer  
 control (zero to full intensity)  
 - 230V

For safe operation this product must be connected to a mains  
 socket outlet with a protective earth contact. Do NOT connect this

product to an incompatible mains supply.

SPARE LAMP FOR POLYTEC LIGHT SOURCE (DCSL/002)  
(Quantity x 2)  
21V, 150W  
250 hours rated life dependant on operating conditions  
NSN 6240-99-667-7669

DICHROIC FILTER - BLUE (DCSL/003)  
NSN 6760-99-152-6267

DICHROIC FILTER - GREEN (DCSL/004)  
NSN 6760-99-391-2910

DICHROIC FILTER - YELLOW (DCSL/005)  
NSN 6760-99-262-1620

DICHROIC FILTER - RED (DCSL/006)  
NSN 6760-99-569-0171

DICHROIC FILTER - DAYLIGHT (DCSL/007)  
NSN 6760-99-726-7152

7	<b>DCS5 UV IMAGING LENS, UV LIGHTING AND FILTERING (DCS5/KIT/010)</b>	1	US\$14,318.97	US\$14,318.97
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**NOTE:**

THIS LENS CAN BE USED FOR VISIBLE, IR AND REFLECTIVE  
UV IMAGING.

LENS - QUARTZ 60mm APO MACRO (DCS5/LENS/UVIR)  
Suitable for all UV, Visible and Infrared applications  
R-UV: latent and cyanoacrylate fumed fingerprints on all smooth  
non-porous surfaces including glossy magazines, plastics and  
glass. Particularly useful for imaging prints on transparent glass and  
Perspex.

This lens allows reflective ultra violet imaging @365nm. It will turn  
many glass surfaces black, remove background interference and  
improve visibility of superglue images on a multitude of difficult  
surfaces. It also enables imaging with Infra Red light. This will  
remove backgrounds on many difficult surfaces and allow visibility of  
previously invisible blood stains.

It can be used for general macro photography and all visible and  
fluorescence photography.

- Costal optics UV-VIS-IR 60mm APO macro
- 60MM F/4 high performance macro lens with focus correction for  
UV-IR (310-1100NM)
- precision manual focus
- filter thread size 52mm

UV CAMERA FILTER FOR DCS5 48MM - 330-385NM  
(DCS5/UVF1)

- UV camera filter for DCS5 48mm – 330-385nm (DCS5/UVF1)
- high quality dielectric coated filter on UG-11 glass substrate 80%  
peak transmission
- UV transmission from 300-400nm 50% transmission points @  
330nm & 385nm
- UV TRANSMISSION FROM 300-400NM, 50% TRANSMISSION  
POINTS AT 330NM AND 385NM
- including stepdown adaptor 52mm to 48mm

**VISIBLE PASS FILTER FOR DCS5 52MM 400-700NM  
(DCS5/PF3)**

- visible pass filter for DCS5 52mm 400-700nm
- to be used with DCS5/LENS/UVIR
- (note: 50mm diameter glass fitted in 52mm diameter threaded holder)

**CAMERA FILTER STEP UP RING 52MM - 72MM  
(DCS5/SUR52/72) (Quantity x 3)**

- enables 72mm filter to fit 52mm diameter lens
- (for use with DCS5/LENS/UVIR)

**CIRCULAR POLARISING FILTER FOR DCS5 52MM (DCS5/CPF3)**

- Professional grade circular polarising filter for DCS5 52mm diameter
- for use with DCS5/LENS/UVIR

**CRIME-LITE 82S - UV 350-380nm (QCL/82S/UV2) INCLUDING UV SAFETY GLASSES**

- 16 x HIGH EFFICIENCY SURFACE MOUNT LEDs
- arranged in 4 clusters of 4 LEDs
- peak 365nm (nominal)
- 10% band width 350-380nm (nominal)
- homogenous light beam
- LED Radiometric Power Maintenance >70% at 30,000 Hours
- dual UV emission warning LEDs and key switch
- weight: 560g
- handle dia 43mm, head 53mm x 65mm, overall length 210mm
- forced air cooling with built in thermal protection
- designed for use with 18V Lithium Ion batteries (offered separately)
- battery run time typically 60 minutes with fully charged Li-ion battery (optional AC mains adaptor available for continuous running)
- compatible with Crime-lite 80 series 24v NiMH batteries (offered separately)
- flat battery indicator LED
- information sheet and wavelength output certificate
- classified to European safety standard EN62471:2008
- Includes 1 x UV protective glasses (QCL2/014)
- fits over glasses
- 100% UV protection, 1% transmission point @ 406nm
- classified to EN207
- optical density of 5.0 (DL5) from 315-398nm

Note: When used with 5Ah battery (QCL82/008B) run time will be increased to 160 minutes

**CRIME-LITE AC MAINS ADAPTOR FOR 80, 82, 42 & 8x4 (QCL/80)**

- input voltage: 90-264V AC
- output voltage: 24V DC
- maximum power output: 80W
- dimensions: 168 x 78 x 45mm
- weight: 750g

8	<b>EXTENSION TUBE SET (DCS5/KIT/011)</b>	1	US\$382.76	US\$382.76
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Comprising:

**EXTENSION TUBE SET (DCS4/TUBES)**

Kenko DG AF Nikon fit tubes

Tube lengths 12mm, 20mm and 36mm



9	<b>CRIME-LITE 8x4 MK2,WHITE LIGHT AND VIS FLUORESCENCE INC VIEW FILT (DCS5/KIT/012)</b>	1	US\$12,960.12	US\$12,960.12
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**NOTE:**

THIS HAS WHITE AND 7 x VISIBLE LIGHT OUTPUTS FROM UV to RED AND IS GENERALLY USED FOR GENERATING VISIBLE FLUORESCENCE. INCLUDES ALL VIEWING FILTERS.

**CRIME-LITE 8x4 MK2 (QCL/231x8)**

(Compatible with the DCS 3, 4 & 5 digital fingerprint capture systems)

Crime-lite 8x4 fitted with 32 high efficiency surface mount LEDs, configured in a ring light for even illumination of up to 98 colour combinations comprising:

- 4 x white LED 400-700nm, 10 intensity and 10 colour temperature settings
- 4 x UV LED peak at 365nm, 10% intensity bandwidth of 350-380nm.
- 4 x violet LED peak at 410nm, 10% intensity bandwidth of 395-425nm.
- 4 x blue LED peak at 445nm, 10% intensity bandwidth of 420-470nm.
- 4 x blue/green LED peak at 475nm, 10% intensity bandwidth of 445-510nm.
- 4 x green LED peak at 520nm, 10% intensity bandwidth of 480-560nm.
- 4 x orange LED peak at 590nm, 10% intensity bandwidth of 570-610nm.
- 4 x red LED peak at 640nm, 10% intensity bandwidth of 600-660nm.

**Features include:**

- 2 detachable handles to simplify removal of light from copy stand mount
- Optimum working distance 150mm.
- Illumination area at 150mm, 140mm diameter.
- Maximum lens diameter to fit inside ring, 85mm.
- 2 segment digital display.
- 24V DC input
- Classified to EN62471
- Software and USB cable included to enable optional control of Crime-lite 8x4Mk2 from a Windows PC

**ADDED APRIL 2017**

- camera synchronisation port and lead for Phosphorescence imaging (for use with Phosphorescent fingerprint powders), requires DCS 5 software and Nikon D810/D5 camera

**CRIME-LITE AC MAINS ADAPTOR FOR 80, 82, 42 & 8x4 (QCL/80)**

- input voltage: 90-264V AC
- output voltage: 24V DC
- maximum power output: 80W
- dimensions: 168 x 78 x 45mm
- weight: 750g

**CRIME-LITE 8x4 LARGE BELLOWS (QCL/127x8)**

- large bellows to enable safe examination of objects
- maximum coverage area – 290 x 225mm, maximum extension - 210mm

**COMPLETE HIGH PERFORMANCE SET OF 12 VIEWING AND**

**POLARISING FILTERS FOR CRIME-LITE 8x4 MK2  
(QCL/232x8/SET)**

- Suitable for visual inspection and photography
- Fluorescence viewing filters - 70mm diameter long pass filter glass fitted into slide mount for Crime-lite 8x4. Anti-glare filters have an additional reflective long pass coating to suppress auto-fluorescent emissions of the filter glass for maximum optical performance when used with high power light sources

GG420 (1% cut-on 408nm), anti-glare (QCL/230x8)

GG455 (1% cut-on 435nm), anti-glare (QCL/181x8)

GG495 (1% cut-on 476nm), anti-glare (QCL/182x8)

OG515 (1% cut-on 495nm), anti-glare (QCL/183x8)

OG530 (1% cut-on 510nm), anti-glare (QCL/184x8)

OG550 (1% cut-on 529nm), anti-glare (QCL/185x8)

OG570 (1% cut-on 549nm), anti-glare (QCL/186x8)

OG590 (1% cut-on 571nm), anti-glare (QCL/187x8)

RG610 (1% cut-on 593nm), anti-glare (QCL/188x8)

RG630 (1% cut-on 613nm), anti-glare (QCL/189x8)

RG645 (1% cut-on 624nm), anti-glare (QCL/207x8)

- Cross polarising filter - 110mm diameter adjustable analyser, 70mm fixed analyser (QCL/139x8)

**STORAGE CASE FOR SLOT IN FILTERS (QCL/287)**

- holds up to 12 x Crime-lite 8x4 filters
  - foam inserts
-

Total value of goods: US\$89,983.35

Two days day(s) on site installation and training. Cost is inclusive of travel and accommodation expenses. US\$3,500.00

Shipping & Handling \$700.00

**TOTAL PRICE** **USD** **US\$94,183.35**

**DESPATCH PERIOD:** (FROM FACTORY) Approx 10 weeks from receipt of order.

**TERMS OF DELIVERY:** Price includes packing and delivery to lab, excluding local sales tax.

**TERMS OF PAYMENT:** Nett 30 Days from date of invoice  
Please note that a surcharge of 3% will apply to all credit card payments

**BANK DETAILS:** United Bank, McLean, VA. Routing No. 056004445, Foster & Freeman USA Inc., Account No. 70061289

**WARRANTY:** One year from date of installation

**VALIDITY:** This quotation is valid until 17 July 2017

*The above prices are in US Dollars and are only valid for equipment supplied and installed within the USA and Canada.*

**SIGNED:**

David Tobin  
President