



# VSC<sup>TM</sup>4i

## THE SECURITY DOCUMENT VERIFICATION SYSTEM

- Detects alterations and counterfeits
- Reveals covert security features
- Non destructive
- Provides documentary evidence for prosecutions
- Helps generate alerts
- Easy to use, with or without PC
- Gives instant results
- In use by immigration and forensic laboratories worldwide

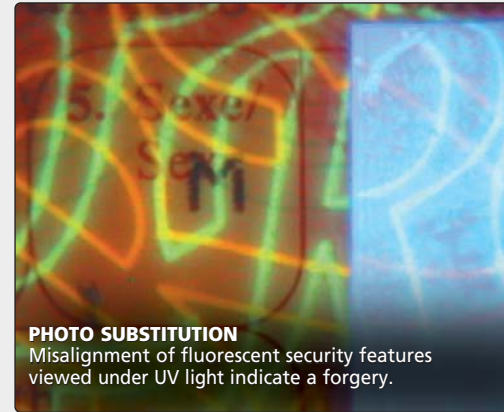
foster+freeman

# VSC<sup>TM</sup>4i THE SECURITY DOCUMENT VERIFICATION SYSTEM

The VSC<sup>TM</sup>4i range of instruments is designed for the examination of security features on passports, banknotes, identity cards and a wide range of breeder documents. Standard models are operated using simple, push button facial controls. Image processing and archiving may be added using a PC and software.

## VSC<sup>TM</sup>4i enables you to check:

- UV activated fluorescent features and fibres.
- Infrared activated anti-Stokes fluorescent features.
- Watermarks and metallic strips.
- Retro-reflective images.
- Holograms and other OVD's.
- Surface features such as embossed stamps and intaglio printing, using oblique lighting.
- Unusual variations\* in the infrared characteristics of inks.
- Paper quality, by assessing the level of paper fluorescence.
- Print quality at high magnification.
- ICAO coded data.
- Invisibly embedded information.



**PHOTO SUBSTITUTION**  
Misalignment of fluorescent security features viewed under UV light indicate a forgery.

The high resolution, high magnification imaging system in the VSC<sup>TM</sup>4i also enables an operator to check alterations to a document's construction such as irregularities in the lamination of a photograph or to the binding.

By adding a PC and an image processing system, such as Foster & Freeman's Document Imaging Software Suite, the examiner can enhance images, make measurements of features and compare two documents side by side on a split screen or overlaid.

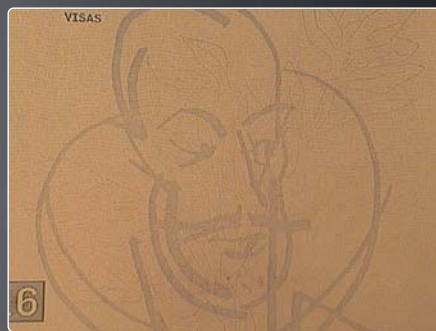
Images are displayed in colour on a 19" monitor at magnifications ranging from x2.5 to x38 which may be permanently recorded by simply adding a video printer to the video output socket.

\*Unusual variations in the near infrared absorption or reflectance of inks often indicate an alteration to a document, these are easily detected with the VSC<sup>TM</sup>4i infrared imaging capability.



### OBLIQUE LIGHTING

Check the quality of embossed features, intaglio printing (*lower image*) and surface texture of paper.



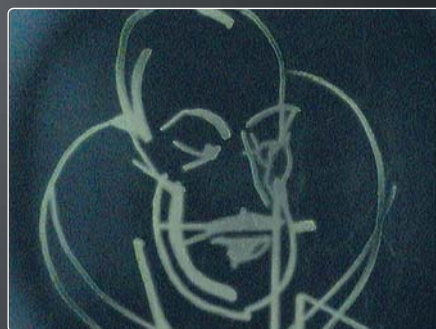
### ANTI-STOKES FEATURES

Portuguese e-passport viewed under visible illumination (*top image*) and intense infrared lighting to reveal anti-Stokes fluorescence.



### RETRO REFLECTIVE IMAGES

French passport reveals retro reflective features under coaxial lighting (*lower image*).



# VSC<sup>TM</sup>4i THE SECURITY DOCUMENT VERIFICATION SYSTEM

The VSC<sup>TM</sup>4i is available with four specifications providing a wide range of facilities for examining documents. All systems may be operated using push button fascia controls or via a PC. Installing any of the software options below requires operation via a PC.

## VSC4i BASIC Order Code: VSC4i/UM

### APPLICATIONS INCLUDE;

- Incident and transmitted lighting with variable intensity, wide beam and high intensity spot options for general examinations including watermarks and metallic strips.
- Infrared lighting, 715 – 1000nm, both incident and transmitted with variable intensity for the examination of the infrared characteristics of inks.
- Low level oblique lighting from both left and right with variable intensity for the examination of surface features.
- Incident long wavelength UV, 365nm emission peak, for the examination of fluorescent security features and paper fluorescence.
- Co-axial visible lighting for the examination of retro-reflective images.
- Visible angled lighting, for the examination of OVD's.
- Supplied with 19" TFT colour monitor and video upscaler.

For full specifications see back page.

## VSC4i BASIC with ANTI-STOKES Order Code: VSC4i/AS/UM

In addition to the features of the basic instrument this option includes high intensity infrared illumination for the examination of anti-Stokes features.

## VSC4i BASIC with UV ENHANCEMENT Order Code: VSC4i/EUV/UM

In addition to the features of the basic instrument this option includes incident short and medium wave UV and long wave transmitted UV illumination for the examination of fluorescent features.

## VSC4i BASIC with UV ENHANCEMENT & ANTI-STOKES Order Code: VSC4i/EUV/AS/UM

In addition to the features of the basic instrument this option includes incident short wave and medium wave UV, long wave transmitted UV and high intensity infrared illumination (for the examination of anti-Stokes features).

## OPTIONAL SOFTWARE & DATABASES

All four VSC<sup>TM</sup>4i systems can be enhanced with the following options which require a VSC<sup>TM</sup>4i operation via a PC.

## DOCUMENT IMAGING SOFTWARE SUITE Order Code: VSC4i/DISS

The Document Imaging Software Suite provides a wide range of image processing functions these include; image comparison, image measurement, image enhancement, image integration, an image gallery presented as 'thumbnail' images and image filing options. Note that when ordered with any VSC<sup>TM</sup>4i system and PC the standard VSC<sup>TM</sup>4i display monitor and upscaler is not supplied.

## EMBEDDED PERSONAL INFORMATION DECODER Order Code: VSC4i/IPI

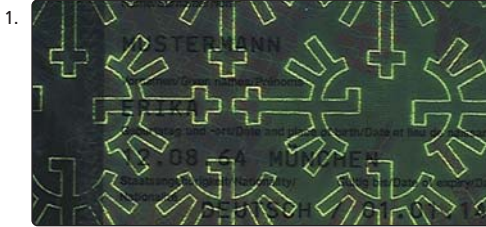
A software module that detects and displays personal information invisibly embedded in passports and identity cards. Note that this module requires the Document Imaging Software Suite (DISS) as well as a PC system.

## IDENTITY DOCUMENT DATABASE Single user licence Order Code: KD/IDENTITY/LICENCE 12 monthly updates Order Code: KD/IDENTITY

A database of over 1400 passports, driving licences and identity cards issued by 180 countries. Data includes descriptions and over 20,000 images of watermarks, holograms and UV features. Available on DVD and updated monthly. Note that when ordered with any VSC<sup>TM</sup>4i system and PC the standard VSC<sup>TM</sup>4i display monitor and upscaler is not supplied.

## BANKNOTE DATABASE Single user licence Order Code: KD/BANKNOTE/LICENCE 12 monthly updates Order Code: KD/BANKNOTE

A database of over 4500 banknotes issued by 180 countries. Data includes over 70,000 images and descriptions of watermarks, holograms and UV features. Available on DVD and updated monthly. Note that when ordered with any VSC4i system and PC the standard VSC4i display monitor and upscaler is not supplied.



### MULTIPLE SECURITY FEATURES ON GERMAN PASSPORT

1. Fluorescent image seen under 365nm incident UV.
2. Fluorescent fibres on the same page seen using transmitted 365nm UV.



### EMBEDDED PERSONAL INFORMATION Revealed with software decoders.



### SECURITY FEATURES

1. British passport viewed with visible light.
2. Viewed with infrared light showing variations in the infrared absorption of printed text.
3. Viewed with incident UV lighting showing fluorescence.

# VSC™4i SPECIFICATIONS

## VSC4i BASIC Order Code: VSC4i/UM

### IMAGING SYSTEM

- CCD colour video camera, sensitivity to 1000nm, automatic & manual iris, gain & focus.
- Motorised x18 zoom lens.
- 19" TFT display monitor.
- Fields of view range from 133 x 100mm to 8.5 x 6.4mm.
- Mirror image reversal.
- On-screen operating parameter display.

### LIGHT SOURCES

- Incident, IR & white with variable intensity, 4 x 12.8W.
- Transmitted, IR & white with variable intensity, 4 x 12.8W.
- Transmitted, high intensity IR & white spot light, 1 x 20W.
- Incident, white low level side lights, left & right, switchable, 2 x 20W.
- Incident, co-axial, visible, 1W LED.
- Incident, white angled side lights, 2 x 1W LED.
- Incident, UV-A (365nm), 2 x 6W.

### OTHER FEATURES

- Video Upscaler: S video input with RGB output.
- External connections: Composite video, Y/C video.
- Footprint: 380 x 380mm.
- Nett weight: 17.5kg (system only).
- Power: 100 to 240VAC, 150W (max).
- Document capacity: 250mm wide of unrestricted length.

## VSC4i BASIC with UV ENHANCEMENT Order Code: VSC4i/EUV/UM

As the basic system plus;

- Incident UV-A (365nm) light source to 2 x 9W.
- Transmitted UV-A (365nm), 2 x 9W.
- Incident UV-B (313nm), 2 x 6W, safety locked.
- Incident UV-C (254nm), 2 x 6W, safety locked.

## VSC4i BASIC with ANTI-STOKES Order Code: VSC4i/AS/UM

As the basic system plus;

- High intensity incident IR light source, 750 – 1100nm.

## VSC4i BASIC with UV ENHANCEMENT & ANTI-STOKES Order Code: VSC4i/EUV/AS/UM

As the basic system plus;

- Incident UV-A (365nm) light source to 2 x 9W.
- Transmitted UV-A (365nm), 2 x 9W.
- Incident UV-B (313nm), 2 x 6W, safety locked.
- Incident UV-C (254nm), 2 x 6W, safety locked.
- High intensity incident IR light source, 750 – 1100nm.

## DOCUMENT IMAGING SOFTWARE SUITE Order Code: VSC4i/DISS

The Document Imaging Software Suite provides a wide range of image processing functions. Installation of the software requires a PC or laptop computer.

- Image display functions including; real time live image, camera stored image and camera stored image from the disk file.
- Image comparison between live and stored images including; inset, overlay and strobed.
- Image measurement functions including; distance, rectangular area, angle and image annotation. The system calibration provides absolute measurement.
- Image enhancement including; sharpen, inversion, shading correction, contrast stretch, rotation, magnification and image addition/subtraction.
- Image integration periods of up to 12 seconds.
- Working gallery with images stored as 'thumbnails'. Gallery images viewed at full size for comparison with live images.
- Image filing using either standard 24-bit colour bitmap (BMP) or JPEG.

## ACCESSORIES

### CARRYING CASE

Order Code: V4P/CC

- Padded carrying case with handles for VSC™4i and separate monitor.
- Outer shell of case can be removed and the instrument can be used in situ.
- Trolley and strap.

### 12VDC POWER ADAPTOR

Order Code: V4P/12VDC

- Allows the VSC™4i to be powered from a 12V source.
- Input loading to 25A.
- Screw terminal inputs.
- Connecting leads.
- Inline RCD (IEC).

### UNINTERRUPTIBLE POWER SUPPLY (UPS) 1500VA

Order Code: V4P/BAT

- Mains input.
- Mains & battery status monitoring.
- Typical UPS (internal battery) runtime for V4+Monitor = 2 hours (based on VIS/IR lighting).
- Inline RCD (IEC).

### E-PASSPORT & ICAO READER

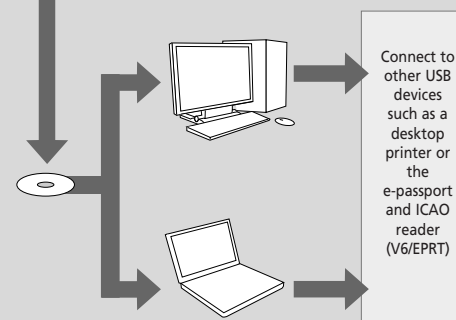
Order Code: V6/EPRT

Desktop e-document reader for reading ISO14443-4 documents such as electronic passports and identity cards with a Machine Readable Zone or ICAO coded data. Stand alone desktop reader with can only be operated when connected to a PC or laptop, supplied with USB cable and power supply.

## VSC™4i CONFIGURATIONS



The VSC™4i available with four specifications providing a wide range of examination techniques. It can also be configured to a PC or laptop, this allows the use of optional databases or enhanced functions available through the Document Imaging Software Suite.



Foster & Freeman can supply a VSC™4i complete system with software pre-installed and the options of either a PC or a laptop.

foster+freeman

www.fosterfreeman.com

Head Office & UK Sales Office: ☎ +44 (0) 1386 41061  
Foster & Freeman Ltd. ☎ +44 (0) 1386 765351  
25 Swan Lane, Evesham, 🌐 www.fosterfreeman.com  
Worcestershire, WR11 4PE. UK 📧 sales@fosterfreeman.com

USA Sales Office: For enquiries from the USA and Canada  
☎ 888 445 5048 🌐 www.fosterfreeman.com  
☎ 888 445 5049 📧 usoffice@fosterfreeman.com

Foster & Freeman Ltd reserve the right to alter the specification of the VSC4i or any accessories without prior notice.

Appointed Agent: