VSC 80
for document examination

Forensic QDE Workstation

A Complete Solution to the Examination of Questioned Documents in Cases of Identity Theft, Forgery, Counterfeiting and Fraud
A leap forward in document imaging technology, the new VSC®80 provides QDE professionals with a complete solution to the forensic-level examination of all questioned documents.

63x more sensitive than previous compact VSC workstations, the VSC®80 combines improved optical performance with multi-spectral illumination for the analysis and comparison of handwriting, signatures, photocopied and printed documents, banknotes, cheques and secure documents including passports, ID cards, driving licences, and breeder documents.

With superior imaging, a comprehensive range of light sources, and a powerful QDE software suite, the VSC80 should be considered an essential upgrade for examiners seeking to perform the highest quality of examinations.

- **Inspect Crystal-Clear Images of Documents**
  View full HD video images on an UltraSharp® monitor
  No loss of resolution up to x80 magnification

- **Identify Counterfeits and Reveal Alterations**
  Detect evidence of tampering and differentiate between false and genuine documents

- **Authenticate all Levels of Security Feature**
  Reveal basic and advanced security marks
  Decode e-Passport, MRZ and other embedded data

- **Produce Court-Ready Evidence and Reports**
  Full casework management
  Include annotations and measurements

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Four phases of document examination, originally published as part of the United Nations Office on Drugs and Crime Guide for the Development of Forensic Document Examination Capacity, 2010
Technology that builds on 40-years experience as the industry leader

The most refined compact VSC instrument from foster+freeman to-date, the VSC® 80 represents the culmination of 40-years experience as the industry leader combined with cutting-edge optics design, powerful and efficient Chip on Board LED illumination, and the latest generation of microprocessor technology capable of performing sophisticated imaging applications with greater responsiveness.

Designed to meet the demands of contemporary document examination, the VSC® 80 provides a complete solution to the ‘traditional’ examination of papers and inks as well as for the detection and decoding of modern security printing techniques.

Superior Image Quality
High Sensitivity Camera
Sharp, bright full-HD images of documents are captured via a high-sensitivity, Vis-IR camera with zoom lens. Advanced camera features include StableZoom and 2D/3D noise reduction to further enhance picture quality.

 increased Functionality

Removeable Base
New and unique to the VSC® 80, is the Removeable Transmitted Light Base which, when removed from the main unit, enables the examiner to inspect larger/thicker items of evidence.

The VSC80 Vis-IR camera is up to 63x more sensitive than the previous VSC40/HD workstation

Adjust the wavelength (colour), intensity and angle of illumination to reveal security features and barely legible marks.

Explore the full gamut of VSC applications including anti-counterfeiting (packaging and consumer goods) and art conservation.

Advanced Illumination
Specialist Illumination Modes
A comprehensive selection of LED light sources including, UV-Vis-IR incident, flood, transmitted, coaxial, and spot light arrays utilise recent advances in LED technology to provide superior output flux, reliability and colour consistency.
Multispectral Examination of Absorption/Reflectance/Fluorescence

Revolutionary when first introduced by foster+freeman almost 40-years ago, multispectral UV-Vis-IR examination exploits the luminescent and reflective properties of papers and inks to reveal additions, alterations or erasures that would otherwise be impossible to detect in the visible spectrum, even under high magnification. The technique can also be used to see through correction fluid and to visualise obliterated or faded writing.

Examination of Print Quality Under High Magnification

Inspection of documents up to x80 magnification, with no loss of image resolution, enables the examiner to assess the print quality of documents and to detect minute imperfections particularly on areas of fine detail or micro-printing. High magnification may also reveal disturbances of the surface of the paper caused by mechanical erasures or evidence of tampering such as page or photo substitution.

Digital Image Analysis to Enhance, Compare and Discriminate

VSC® Software Suite provides specialised filters and enhancement tools to boost the appearance of weak or faded writing/inking, sharpen images, remove background colours, and to discriminate between closely related colours. Additional software functions include the facility to compare live and stored images side-by-side, superimposed, or subtracted and to measure and annotate captured images.

Further Analysis Using the Optional Spectrometer Module

An optional accessory, the VSC® 80 Spectrometer Module captures absorption, reflectance, fluorescence and transmitted spectra in real time with results displayed on-screen in a simple graphical format enabling the examiner to identify differences in ink and paper formulations.
Examination of Specialist Security Inks and Fluorescent Dyes

The VSC®80 includes illumination modes suitable for the visualisation of all common UV fluorescent features as well as 3rd-level security features such as infrared anti-Stokes ink. Multi-spectral UV-Vis-IR imaging stimulates a fluorescent response in the specialist inks and dyes which may then be observed using the corresponding imaging filter (automatically selected by the VSC®80).

Detect and Decode E-Passport Chips and Embedded Data

On-board data decoders can detect and read 1D and 2D barcodes, ICAO encoded MRZ data, embedded IPI (Invisible Personal Information) and ICI (Invisible Constant Images) on passports and identity cards*. A choice of optional e-Passport Readers enable the examiner to capture and read RFID documents including e-Passports, eID or any other ICAO formatted eDocument.

New and Future Security Features and Countermeasures

Secure documents including passports, ID cards, and banknotes continue to evolve as their manufacturers compete to stay ahead of technically adept counterfeiters. Regular software updates are made available for all current VSC models enabling the instruments to keep pace with advances in security substrates, inks, and digitally encoded features.

Compare Suspect Documents with Genuine Reference Images

Verify the authenticity of documents under investigation against up-to-date information and images of thousands of passports, ID cards, driving licences, visas and banknotes from countries around the world by subscribing to regularly updated reference databases.

* Scrambled Indicia® and LetterScreen++® decoders require the purchase of additional software licences.
VSC®80 specifications and accessories

### VSC®80 Core System Specifications

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<th>Essential Hardware</th>
<th>Illumination</th>
<th>VSC Suite 7 Software Features</th>
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<tr>
<td><strong>VSC Dimensions</strong></td>
<td>Visible-IR LED Illumination</td>
<td><strong>Document Specific Workspaces</strong></td>
</tr>
<tr>
<td>W:392 x D:372 x H:366mm</td>
<td>Incident (Flood) Vis and IR LEDs</td>
<td>Choose Basic, Advanced, ID Document, or Banknote workspaces with application specific layout and tools</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>2x Multi-Angled LED Array</td>
<td><strong>Camera and Hardware Control</strong></td>
</tr>
<tr>
<td>Input 110V/230V, 50/60Hz</td>
<td>Twin Vis and IR Side LEDs</td>
<td>Automatic or manual control of camera functions and all VSC light sources</td>
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<tr>
<td><strong>Computer &amp; Monitor</strong></td>
<td>Transmitted Illumination</td>
<td><strong>Automation</strong></td>
</tr>
<tr>
<td>Desktop PC</td>
<td>Removeable LED module with UV-A, Vis and IR light sources</td>
<td>Use Quick-Check mode to record images captured under preset examination conditions.</td>
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<tr>
<td>24” LCD display</td>
<td><strong>Specialist Illumination</strong></td>
<td><strong>Image Enhancement and Comparison</strong></td>
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<tr>
<td>(27” available on request)</td>
<td>Incident UV-A, UV-B, UV-C 10X LED Spotlight</td>
<td>Including contrast and brightness adjustment, side-by-side comparison and image overlays</td>
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<tr>
<td><strong>Imaging</strong></td>
<td>Coaxial Light Source</td>
<td><strong>Embedded Data Decoders</strong></td>
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<tr>
<td><strong>Camera</strong></td>
<td>IR Anti-Stokes</td>
<td>Detect and decode information stored in barcodes, images, IPI, and Machine Readable Zones</td>
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<tr>
<td>High sensitivity CMOS camera</td>
<td>Imaging Filters</td>
<td><strong>Security Documents Database</strong></td>
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<tr>
<td>Vis-IR sensitive</td>
<td>Integral motorised filter wheel</td>
<td>Reference database of ID documents.</td>
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<tr>
<td>Zoom lens</td>
<td>includes 1x broadband visible filter and 12x visible and IR long-pass filters</td>
<td>Archive Collection</td>
</tr>
<tr>
<td>Full HD live video output</td>
<td><strong>Optional Hardware Accessories</strong></td>
<td>Annual Subscription</td>
</tr>
<tr>
<td><strong>Magnification</strong></td>
<td><strong>Optional Software Accessories</strong></td>
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<tr>
<td>Up to x100 on 24” monitor</td>
<td><strong>Embedded Personal Data Decoder</strong></td>
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**Contact Foster+Freeman for the latest VSC® hardware specifications**

### Optional Hardware Accessories

- **e-Passport Reader 1A**
  - Order Ref: VSC/ERREADER1/A
  - High performance MRZ and RFID data reader with contact/contactless capability.

- **Portable Video Microscope & SMP Camera**
  - Order ref: VSC80/PVM
  - 3x optical zoom c-mount video microscope with 5MPixel USB 3.0 CMOS colour camera provides magnification up to x249 on a 30” monitor. Includes dimmable White LED

- **SMP External Camera**
  - Order ref: V80/CAM
  - USB 3.0 SMP C-Mount camera provides an additional input to the VSC

- **3x Optical Zoom Microspectrometer & SMP Camera**
  - VSC80/PVMS
  - Portable Video Microscope and 5MPixel camera, connected to an external fibre-coupled spectrometer.
    - Spectrometer wavelength range of 400-850nm with 5nm resolution
    - Circular spectrometer sampling area of diameter 67-200 microns, depending on magnification
    - Software-controlled Vis-IR LED lighting

### Optional Software Accessories

- **Embedded Personal Data Decoder**
  - VSC80/IPI
  - IPI (Invisible Personal Information) and ICI (Invisible Constant Image) to enable detection of IPI/ICI in passports and ID cards
  - Uses Scrambled Indicia® Technology supplied under licence from Graphic Security System Corp (GSSC) of the USA

- **LetterScreen++ Decoder**
  - VSC80/LS/PLUS
  - LetterScreen++ detection and verification by special algorithm based on personal data in MRZ
  - Machine-Readable LetterScreen++® Technology supplied under licence from Jura, Hungary

- **Security Documents Database**
  - Reference database of ID documents.
  - Archive Collection | VSC/DB/Archive |
  - Annual Subscription | VSC/DB/KDATA |

- **Banknotes Database**
  - Reference database of banknotes.
  - Archive Collection | VSC/DB/Archive/C |
  - Annual Subscription | VSC/DB/KDATA/C |