



# VSC<sup>®</sup> 90

Compact and Comprehensive  
Document Authentication Solutions

foster+freeman

# VSC® 90



## COMPACT AND COMPREHENSIVE

VSC90: a complete, reliable platform for identifying suspect, counterfeit, and fraudulent documents.

MEETING TODAY'S DYNAMIC DOCUMENT EXAMINATION NEEDS

# An Evolution in Versatile Document Examination



## VSC90 is available in Two Distinct Hardware Configurations, for use in Fixed or Mobile Scenarios

Available as a standalone field-ready system for mobile deployment, or a lab-ready device, the VSC90 delivers forensic-grade multispectral examination and eChip analysis wherever needed, from fixed laboratories and checkpoints to remote field operations.



## Flexible Next-generation VSC STAC Software for Rapid eChip Authentication and Forensic-Level Analysis

Secure Trust Authentication Chain (STAC) eChip analysis software extracts and analyses identity data stored on a document's eChip to provide the highest level of authenticity assurance for e-passports, ID cards, and other critical documents. Seamlessly switch between two powerful new software modes for rapid authentication or detailed forensic analysis.



## In fixed locations

### Laboratories and Dedicated Examination Facilities

The VSC90 delivers a powerful yet compact solution when operated via an external PC and monitor.

#### Perform Advanced Examinations

Image annotation and calibrated measurements provide precise documentation, while the advanced comparison and enhancement toolset including 3D imaging, Focus Stacking and Focal Plane Merging, reveals hidden details.



SYSTEM ONLY FOR USE WITH  
EXTERNAL PC AND MONITOR



## Mobile and Field Deployment

### Remote Locations, at the Border, or in a Vehicle

The VSC90 Mobile integrates an onboard PC and touchscreen monitor, creating a self-contained, field-ready system.

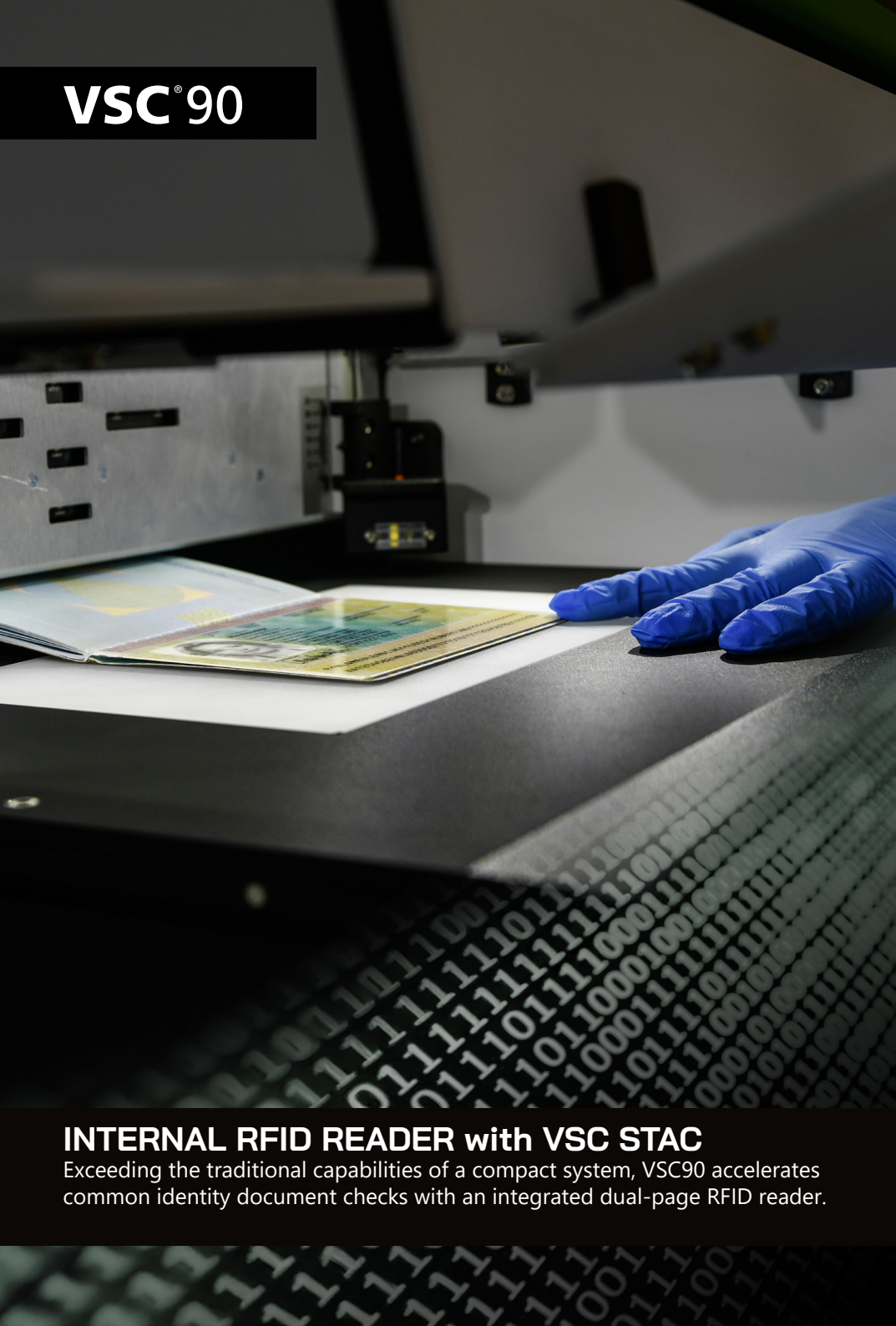
#### In fast-paced environments...

eChip analysis and Facial Identification, coupled with automatic MRZ recognition and data decoders for barcodes, IPI, and LetterScreen+, extracts critical information instantly.



VSC90 MOBILE WITH  
INTEGRATED MONITOR AND PC



A close-up photograph of a VSC90 workstation. A gloved hand in a blue nitrile glove is resting on a document placed on the workstation's surface. The document appears to be a passport or travel document. The workstation has a dark, metallic finish. In the background, there are some electronic components and a small display screen. The overall lighting is dim, highlighting the document and the hand.

# VSC<sup>®</sup>90

CROSS-EXAMINE PHYSICAL AND DIGITAL DOCUMENT ELEMENTS

## Providing True Confidence in Document Authentication

**For superior identity authentication, the VSC90 combines physical and digital document interrogation, providing greater confidence than existing technologies.**

The VSC90 delivers a complete examination solution by combining forensic-level eChip analysis, comprehensive all-LED multispectral illumination, and seamless reference database integration. This multi-layered cross-checking empowers examiners to authenticate documents with the highest confidence.

Unique to foster+freeman, the VSC90 achieves high-level eChip interrogation, using Secure Trust Authentication Chain (STAC) technology to access, decode, and cross-check all data groups within ICAO-compliant electronic travel documents.

Unlike systems relying on physical inspection, hidden marker detection, and user knowledge, VSC90 workstations equip any examiner with the tools and data to examine every document with true confidence.

### INTERNAL RFID READER with VSC STAC

Exceeding the traditional capabilities of a compact system, VSC90 accelerates common identity document checks with an integrated dual-page RFID reader.

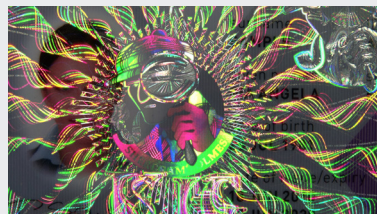
# Physical Examination

## Using Advanced Optical Inspection Technology

Utilise comprehensive multi-spectral illumination and imaging tools to inspect all physical elements of a document to reveal signs of counterfeiting or tampering.

Examine traditional and advanced security features with confidence, using narrowband illumination to 'activate' and/or visualise common and specialist document security features, such as watermarks, holograms, special inks, and security threads, in addition to anti-tampering measures, including perforations, laminates, stitching, and heat-sealed edges etc.

High-resolution imaging optics and versatile LED illumination combine for physical inspections



Holograms



Secure Laminates



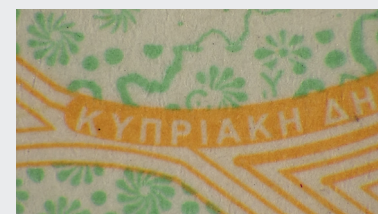
UV-Activated Inks



IR Drop-Out Inks



Fine Print Detail



Micro-Printing

# Digital Interrogation

## Absolute Confidence in Identity Authentication

Developed with support from leading experts, VSC90 includes VSC STAC, a uniquely powerful forensic e-Chip datagroup extraction and interrogation toolset.

VSC STAC robust and comprehensive data inspection leaves no doubt regarding document integrity.

Expert e-Chip analysis ensures confident document authentication



INTERROGATE  
RFID e-Chips



UNLOCK  
Biometric Data Groups



CONFIRM  
eChip Integrity



CROSS-CHECK  
Validate Data





# VSC® 90

SELECT THE VARIANT TO MATCH YOUR REQUIREMENT

## Versatile Hardware Uncompromising Performance

Despite their distinct form factors, the VSC90 and VSC90 Mobile variants deliver identical, forensic-level performance, sharing the same advanced optical system, multi-spectral LED illumination, and sophisticated eChip analysis capabilities.

Common features include:



### Precision Optics for Fast-Focus Live Imaging

High-resolution camera system with a twin-lens 30x zoom.



### Full LED Multi-Spectral Illumination

Powerful, precise, and consistent illumination from UV to IR.



### Specialist Illumination and Analysis Modes

Advanced forensic-level examination features include: phosphorescence imaging, IR anti-Stokes, 3D Imaging\*, off-axis coaxial imaging, and MIC detection.



### VSC STAC e-Chip Detection and Interrogation

Extract and decode encoded e-Chip data using BAC and PACE protocols.

### VSC90 MOBILE

A self-contained, field-ready system, with embedded PC and integrated touchscreen display.

## VSC90 MOBILE

### With Embedded PC and Integrated 17" Touchscreen Display

Addressing the critical need for deployable forensic analysis, the VSC90 Mobile variant provides a fully self-contained and field-ready system.

By integrating an onboard PC and touchscreen monitor, this portable solution enables rapid deployment and immediate analysis in locations such as border checkpoints.

The VSC90 retains the complete VSC90 feature set, ensuring uncompromised forensic capabilities are available wherever they are required.



## 2 Distinct Hardware Variants

## VSC90

### Supplied with Embedded *or* External PC and a Choice of Monitor

Designed for fixed locations such as laboratories, the standard VSC90 provides a robust and compact forensic analysis solution.

Supplied with either an embedded or external PC and a choice of 27" or 32" monitor, this variant offers a familiar workflow for in-depth analysis, delivering the full suite of VSC90 forensic capabilities in a compact device.



**VSC® 90**

# Why Choose VSC90?

## FORENSIC-LEVEL TECHNOLOGY

### NEXT-GEN FULL-HD OPTICS

Examine exceptional quality live images of documents to reveal every intricate detail.

### ALL-LED ILLUMINATION

Interrogate documents using 1023 illumination combinations to visualise security features and reveal evidence of tampering.

### INTEGRATED RFID READER

Unlock data stored within a documents e-Chip to perform the highest level of authentication checks.

### FORENSIC-LEVEL TOOLSET

Perform advanced techniques including 3D surface analysis and off-coaxial imaging.



## CONSISTENT RELIABLE PERFORMANCE

### CONFIDENT AUTHENTICATION

Verify authenticity and integrity by cross-checking physical documents with encrypted digital data.

### AT ANY LOCATION

Flexible hardware options meet the needs of every examiner from the laboratory to the front line.

### FOR ANY USER

Simply perform comprehensive document checks via the familiar and time-proven VSC user interface.

### A COMPLETE SOLUTION

Standalone, or part of a wider VSC network, the VSC90 provides a fully-featured forensic examination solution.

# Versatile Applications

## BORDER SECURITY AND IMMIGRATION

### AIR, LAND, & SEA PORTS



Whether at airports, ports, fixed checkpoints, or other stationary border security settings, VSC90 provides the tools needed to ensure confident travel and ID document authentication.

### MOBILE BORDER SECURITY



With self-contained and mobile configurations available, VSC90 is an ideal tool to undertake watertight document examinations in dynamic situations where flexibility is key.

## LAW ENFORCEMENT AND BEYOND

### FORENSIC LABS



A fully-featured VSC device, the VSC90 is equipped to extract maximum forensic value from any document examined for investigative purposes.

### AND BEYOND



From prisons, to banks, to museums and trading card graders, VSC technology remains the benchmark for forensic-level document examination.



## Built in the UK to the Highest Quality Standards

*VSC90 is manufactured to meet or exceed safety, testing, and compliance standards, including:*

PRODUCT: UKCA, CE, ROHS COMPLIANT (EN 63000:2018)

EMC: EN 61326-1:2013 (LABORATORY EQUIPMENT), FCC 47 CFR

SAFETY: EN 61010-1 (LAB), ELECTRICAL (EST) EN 61010-1:2010

RADIO: ETSI EN 300 330 V2.1.1 (SHORT RANGE DEVICES)

PHOTOBIOLOGICAL SAFETY: EN 62471:2008 (LAMPS), EN 62471

ENVIRONMENTAL: BS EN 60068-2-1:2007, BS EN 60068-2-14

## A Natural Upgrade, for a Step-Change in Optical Performance

Each VSC device builds on the trusted technology of previous devices to deliver improved performance, capable of authenticating a wider range of security features and identifying the high-quality counterfeits currently available via the criminal black market.

### VSC90

Compact workstation supplied with integrated or external PC. External monitor required.



### VSC90 Mobile

Standalone workstation with integrated PC & Touchpanel Display



\* Pictured with optional VSC90 Mobile Transportation Case

## VSC90 System Specification

For full instrument specifications, please contact [sales@fosterfreeman.com](mailto:sales@fosterfreeman.com)

### Base System

|              |                                                         |
|--------------|---------------------------------------------------------|
| VSC90        | Optional embedded PC<br>Requires external monitor       |
| VSC90 Mobile | Includes embedded PC<br>Includes integrated 17" display |

### Document Imaging

|                        |                                                                                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Next-Generation Camera | Colour/IR high resolution imaging<br>Up-to 57 lp/mm spatial resolution<br>Twin-lens optical zoom<br>Spectral range, 350-1100nm<br>14x visible and IR imaging filters |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Standard all-LED Illumination Sources

|                                   |                                                                                  |
|-----------------------------------|----------------------------------------------------------------------------------|
| Incident Flood                    | Visible and IR<br>UV-A, UV-B, UV-C                                               |
| Removeable transmitted light base | Flood: UV, Visible, and IR<br>Spot: UV, Visible, and IR                          |
| Oblique/Side                      | Visible and IR                                                                   |
| Narrowband Spot                   | 10 X LED Array<br>1023 Waveband Combinations<br>Automated Fluorescence Scan Mode |

### Specialist Illumination Sources

|                 |                                              |
|-----------------|----------------------------------------------|
| OVD             | Combined Circular and Vertical 42X LED Array |
| Coaxial         | Large-Area Segmented array                   |
| Anti-Stokes     | IR 980nm                                     |
| 3D Imaging      | Requires optional software                   |
| Phosphorescence | Pulsed UV                                    |

### RFID e-Chip Reader

|                         |                                                        |
|-------------------------|--------------------------------------------------------|
| Fully-Integrated reader | Dual-page antenna<br>Read e-MRTD with document in-situ |
|-------------------------|--------------------------------------------------------|

## VSC90 Examination Accessories

For full accessory specifications, please contact [sales@fosterfreeman.com](mailto:sales@fosterfreeman.com)

### System Accessories

| System Accessories                       | Part ID#     |
|------------------------------------------|--------------|
| EXTERNAL 27" MONITOR FOR THE VSC 9000 PC | VSC90/MON27  |
| EXTERNAL 32" MONITOR FOR THE VSC 9000 PC | VSC90/MON32  |
| EXTERNAL PC FOR VSC90                    | VSC90/COMP   |
| LAPTOP PC FOR VSC90 (16" DISPLAY)        | VSC90/LAPTOP |

### Examination Accessories

| Examination Accessories                 | Part ID#       |
|-----------------------------------------|----------------|
| ATR THERMOCHROMIC INK VIEWER            | VSC/ATR        |
| POLARISAFE UV LIGHTING MODULE           | VSC/POLARISAFE |
| DOCUMENT TILT PLATE                     | VSC/TILT       |
| MFSI-2 MAGNETIC SECURITY FEATURE VIEWER | VSC/MSFI/2     |
| QUARTZ GLASS PLATE                      | VSC/QPLATE     |
| LARGE A4 QUARTZ GLASS PLATE             | VSC/QPLATEA4   |
| CARD EDGE VIEWING MIRROR                | VSC/EDGEVIEWER |

### Facial Identification Accessories

| Facial Identification Accessories   | Part ID#     |
|-------------------------------------|--------------|
| FACIAL ID HARDWARE KIT              | VSC/FR/KIT/S |
| LIVE FACIAL IDENTIFICATION SOFTWARE | VSC/FR10     |

### Transportation Cases

| Transportation Cases                                                          | Part ID#           |
|-------------------------------------------------------------------------------|--------------------|
| VSC90-MOBILE TRANSPORTATION CASE                                              | VSC-MOBILE-CASE    |
| VSC90-STANDARD CASE (LIGHTWEIGHT DESIGN)                                      | VSC-UNIT-LIGHTCASE |
| VSC90-RIGID CASE (WITH SPACE FOR LAPTOP PC)                                   | VSC-UNIT-RIGIDCASE |
| VSC90-ACCESSORY CASE (WITH SPACE FOR 27" MONITOR AND EXAMINATION ACCESSORIES) | VSC-ACCESSORY-CASE |

### Reference Database Subscriptions

| Reference Database Subscriptions                                      | Part ID#              |
|-----------------------------------------------------------------------|-----------------------|
| KEESING TRAVEL AND IDENTITY DOCUMENTS DATABASE (UPDATES SUBSCRIPTION) | VSC/DB/KDATA          |
| KEESING TRAVEL AND IDENTITY DOCUMENTS DATABASE (ARCHIVE)              | VSC/DB/ARCHIVE        |
| KEESING BANKNOTES DOCUMENTS DATABASE (UPDATES SUBSCRIPTION)           | VSC/DB/KDATA/C        |
| KEESING BANKNOTES DOCUMENTS DATABASE (ARCHIVE)                        | VSC/DB/ARCHIVE/C      |
| ASSURE ID SENTINEL (5-YEAR SUBSCRIPTION)                              | VSC/ASSUREID-SENTINEL |

### Embedded Data Decoders

| Embedded Data Decoders                 | Part ID#    |
|----------------------------------------|-------------|
| STAC SECURE TRUST AUTHENTICATION CHAIN | VSC/STAC    |
| EXTENDED RFID CAPABILITY (SECUNET SDK) | VSC/RFID    |
| LETTERSCREEN ++ DECODER                | VSC/LS/PLUS |
| IPI DECODERS                           | VSC90/IPI   |

### 3D Imaging Software

| 3D Imaging Software                 | Part ID# |
|-------------------------------------|----------|
| OPTIONAL 3D IMAGING SOFTWARE MODULE | VSC/3D   |

### Microscope Accessories

| Microscope Accessories                   | Part ID#          |
|------------------------------------------|-------------------|
| EXTERNAL CAMERA (FOR MICROSCOPE INPUT)   | VSC90/CAM         |
| NIKON SMZ 745T MICROSCOPE                | VSC/NIKON/SMZ745T |
| NIKON SMZ 18 MICROSCOPE                  | VSC/NIKON/SMZ18   |
| LEICA S9D MICROSCOPE                     | VSC/LEICA/S9D/SYS |
| PORTABLE VIDEO MICROSCOPE & SPECTROMETER | VSC/PVMS          |

# VSC<sup>®</sup>90

Ready to find out more?



[fosterfreeman.com/vsc-90/](https://fosterfreeman.com/vsc-90/)

**foster+freeman UK**  
info@fosterfreeman.com  
+44 (0)1386 768 050

**foster+freeman USA**  
usoffice@fosterfreeman.com  
888 445 5048

**foster+freeman EU**  
de.sales@fosterfreeman.com  
+49 (0)210 255 76 525

**foster+freeman NL**  
nl.sales@fosterfreeman.com  
+31 (0)6 1114 3858

**foster+freeman**