

projectina[®]

DOCUCENTER 4500
Spectral-Analysis System
for Document Investigation



Schweizer Pass
Passeport suisse
Passaporto svizzero
Passaport svizzer
Swiss passport



DOCUCENTER 4500

Spectral Analysis System for the efficient Investigation of Documents.

The DOCUCENTER 4500 is the result of our ongoing development efforts and investments. A close cooperation with specialists from around the world allows us once again to set the standards and meet all the latest requirements with the DOCUCENTER 4500.

The checking of ICAO-Codes or IPI (Invisible Personal Information), as well as various comparison functions are made easy with the intelligent Software PIA-4000. Even the latest safety features from the paper manufacturing industry and in the production of documents have already been incorporated.

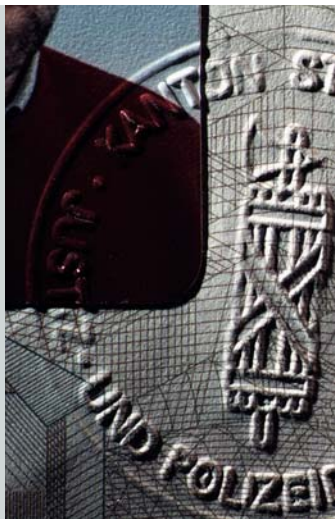
As an example, the Polarisafe® (™ Landqart) Feature should be mentioned. Unique are the system's optical features, like resolution, magnification range, and extended field-of-view.

The DOCUCENTER 4500 offers all facilities for professional document examination.

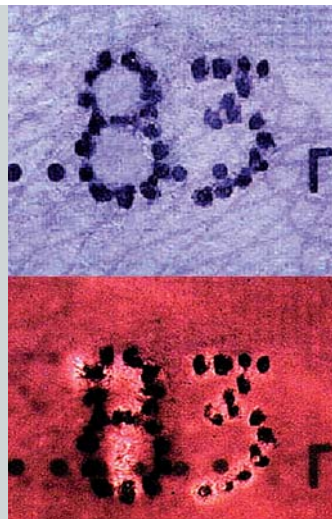
The motorized 16x zoom optics with an optical magnification of up to 80x permits the exact investigation of micro-features. The field-of-view, measuring 180x135 mm, allows a whole passport to be displayed.

Automatic filter selection and eleven different light sources offer comprehensive examination possibilities. The «anti-stoke inks»-security feature can be brilliantly displayed with IR light excitation at 980 nm. The operator is protected by safety installations when working in the UV and IR range.

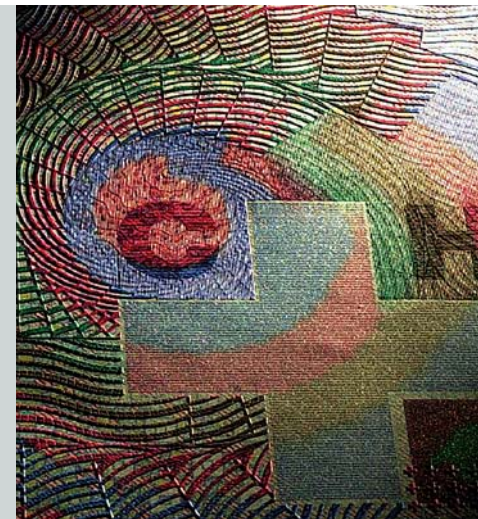
The whole examination process is automatically controlled by the newly developed Software PIA-4000. All steps and results in the process can be individually documented and stored.



■ Oblique light examination of embossed stamp and mechanical erasure.



■ IR luminescence investigation to differentiate printing inks.



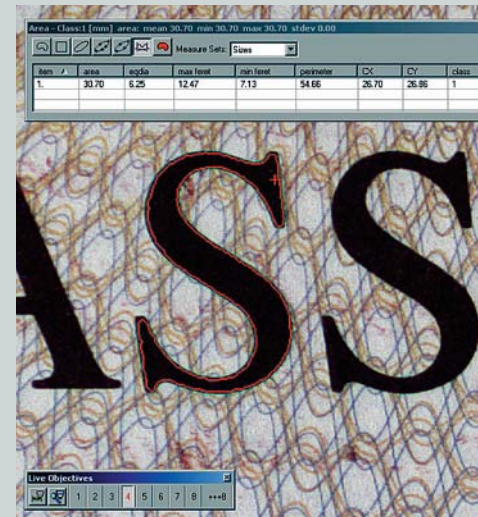
■ Detection of invisible security features (latent image).



■ UV 313 nm: security feature in a Hungarian passport.



■ Detection of a photo substitution in UV light.



■ PIA-4000 display of measuring functions.

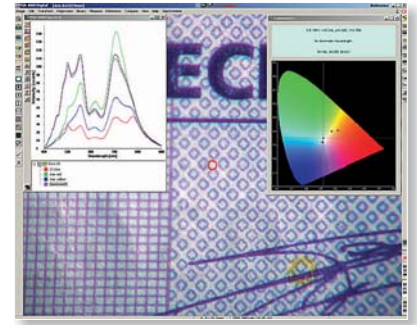


Image Processing, Comparison and Measurements with PIA-4000

The intelligent and simple-to-operate PIA-4000 Software fulfills all requirements: Systematic comparison, measurements, image interpretation, image processing functions, establishment of a data base with image search functions, spectral analysis investigations, etc., all assist the document examiner in his daily work.



- Image comparison: superimposition, horizontal and vertical split, complementary colours (red/green)
- Image enhancement functions
- Measurements: length, parallel, circles, areas, ellipses, etc.
- Image inserts
- Image management, album
- Automated white balance
- ICAO Code verification
- Checking of IPI (Invisible Personal Information)

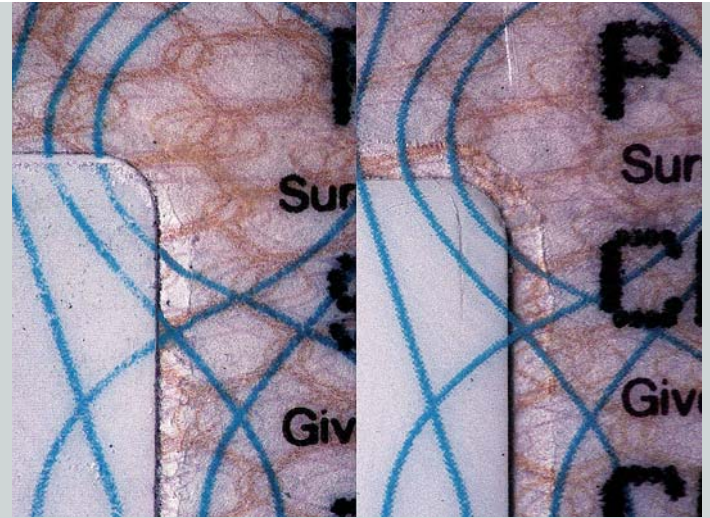


Colour Spectroscopy Module SP-2000

- Spectrometry to measure absorption and reflectance, spectral range from 350–850 nm with 8 nm resolution
- Colour measurement: L*a*b*/CIE colours, measurements illustrated in CIE



■ True and detailed imaging thanks to high-resolving optics and camera system. Laser relief on a Swiss identity card. Magnification: 80x.



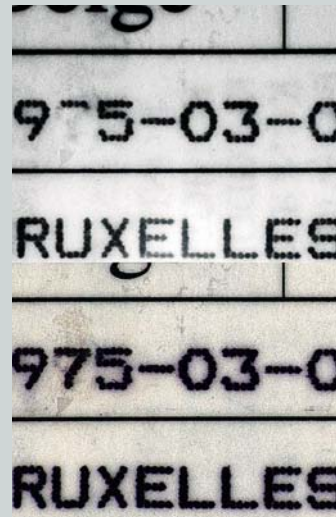
■ Comparative presentation of an image detail: Left: photo substitution. Right: Original.



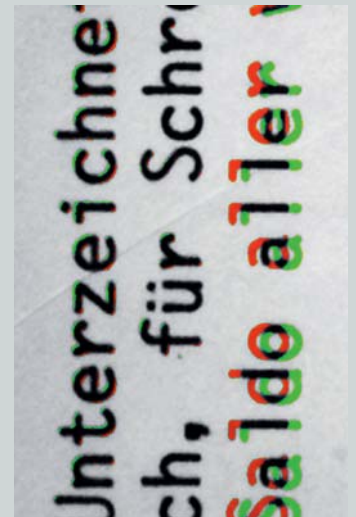
■ Horizontal split image of OVI. Above: Original, below: Forgery.



■ Hidden information in transmitted UV light in German travel documents.



■ Comparative IR spectral investigation for ink differentiation.



■ Superimposed comparison using complementary colours. Red/green to show added additional text.

DOCUCENTER 4500

Facts and Figures



Light Sources

- UV Incident Light 365 nm, 313 nm and 254 nm: for the investigation of UV fluorescence security features
- Transmitted light UV 365 nm: for the detection of UV security features
- Transmitted light IR: to observe and detect watermarks, mechanical erasures, etc.
- Oblique illumination: for the detection of mechanical erasures and embossed printing (Intaglio), etc.
- Retro light: coaxial light to detect retro-reflective security features
- White light: to investigate details in micro-printing and printing techniques
- IR luminescence: for IR spectral analysis of different inks.
- IR light: IR spectral comparison in document examination
- IR light at 980 nm: for «anti-stoke inks»

Colour Spectroscopy Module SP-2000

Spectral range 350– 850 nm, resolution 8 nm

High resolution IR Colour Digital Camera

Spectral range 350 nm – 1000 nm

Camera Barrier Filter Module

Filter values: 350–680, 610, 630, 645, 665, 695, 715, 735, 780, 830, 850, 1000 nm. Option: Broadband pass filter 400 nm–1000 nm.

Optics/Magnification

16x Zoom objective, motorized, magnification range 2x – 80x, with Zoom, Focus- and Iris diaphragm control.

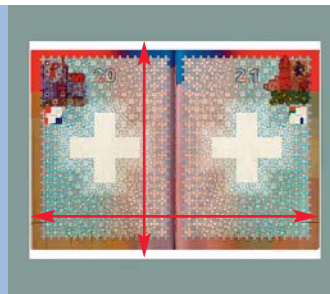
Image Processing, Comparison and Measurements with PIA-4000

addressing up to 3 digital systems

Excitation Filter Module

For excitations in luminescence, motorized selection of filter values, with 84 filter combinations of various wavelengths (see chart)

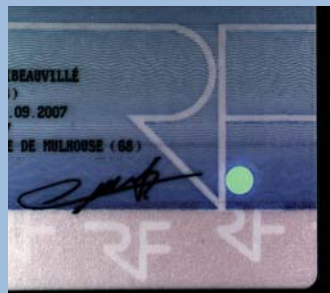
Please request our detailed Technical Data Sheet!



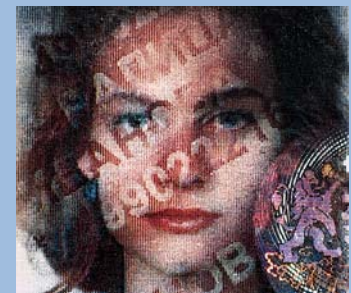
■ The wide field of view, 180x135 mm, allows a double-sided passport to be displayed.



■ ICAO Code verification.



■ IR 980 nm excitation for «anti-stoke ink» reactions.



■ Detection of hidden information in the photo area (IPI).

Excitation Filter Chart

Low pass filter threshold nm	High pass filter threshold nm									
	720	680	650	620	570	530	490	450	420	
665	55	15								
645	75	35	5							
630	90	50	20							
610	110	70	40	10						
590	130	90	60	30						
570	150	110	80	50						
550	170	130	100	70	20					
530	190	150	120	90	40					
515	205	165	135	105	55	15				
495	225	185	155	125	75	35				
475	245	205	175	145	95	55	15			
455	265	225	195	165	115	75	35			
435	285	245	215	185	135	95	55	15		
420	300	260	230	200	150	110	70	30		
380	340	300	270	240	190	150	110	70	40	

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