Video Spectral Comparator

BSSVC-1000B

Introduction

BSSVC-2000B Video Spectral Comparator is a device mainly used for identifying alterations, covering up, fading, forgery, adding strokes, handwriting indentation, anti-counterfeiting hidden marks, etc. of documents, receipts and files. BSSVC-2000B Video Spectral Comparator includes host, CCD camera and criminal investigation image processing software.

Features

1. Light source system

Uniform strong light source: 1* 24V/150W tungsten halogen lamp, equipped with a dedicated cooling fan, condenser lens, and heat-insulating glass.

UV long wave: 365nm: 1* 10W, for visible fluorescence observation.

Visible side light: 1* 12V/50W LED lamp, capable of detecting infrared absorption and reflection, with angel adjustable lamp holder, for detecting indentation.

Perspective white light lamp: 2* 20W, capable of detecting watermarks.

Excitation filters for visible light sources: using high transmittance, narrow half width bandpass filters at 000nm, 365nm, 440nm, 530nm, 555nm, 585nm and 615nm.

Reception filters: 000nm, 450nm, 565nm, 700nm, 720nm, 800nm and 900nm cut-off long wave pass filters.

Image system

The high-sensitivity camera: a 1/3" CCD color camera with a resolution of 800 TV lines and a sensitivity of 0.0001 Lux. High resolution and sensitivity for both near-infrared and visible light spectral ranges.

Motorized zoom lens: The relative aperture of lens is 1.2. The aperture, focusing, and zoom magnification (1X-30X) are all electrically adjustable.

Image processing software

The storage/printing function: it can store all images and data obtained by the video spectral comparator during the inspection process, and can be used in conjunction with a printer to print out the required images.

The comparison function: it can perform horizontal and vertical stitching or overlapping comparison between two detected images. Static and dynamic images can be compared in real-time.

Gray value measurement: it can measure the gray value of any specified point or area in the image. And the grayscale changes at that location under various detection conditions can be displayed in the form of curves. This method is particularly advantageous for identifying subtle grayscale differences between different texts in the image formed by the inspected document that are difficult for the human eye to detect.

Depth of field automatic synthesis

Processing Blurred image

Motion blur processing, geometric correction of deformed images and fast image processing

Other image processing: It can do reflectivity and absorbance measurement, image measurement and annotation, extraction of the main part of the stamps, curve and linear image shaping, universal cutting comparison, image ghosting and other various image processing methods.

Main function

- Multiple excitation light and receiving filter combinations are used to test the fluorescence differences of different inks.
- The combination of reflective light source and receiving filter is used to test the absorption and reflection differences to different wavelength bands of light of different inks.
- The combination of reflective light source and receiving filter is used to test the penetration effect to different infrared light bands of different inks.
- The combination of transmitted light source and receiving filter is used to test the penetration effect to different infrared light bands of different inks.
- The side light source illuminates the document in a grazing incidence manner to inspect the scratch and cutting marks on the document.
- The transmitted light source illuminates the document from below upwards to inspect the traces of cutting and patching on the document.

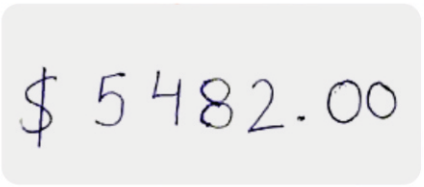
Application

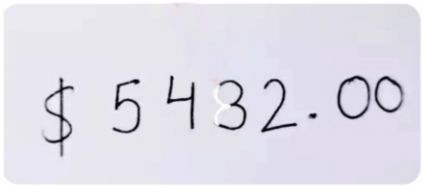
BSSVC-2000B is mainly used for identifying alterations, covering up, fading, forgery, adding strokes, handwriting indentation, anti-counterfeiting hidden marks, etc. of documents, receipts and files. It is an ideal choice for Public Security Bureaus, procuratorates, courts and their colleges.

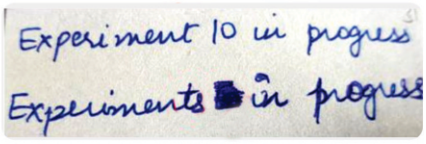
Specification

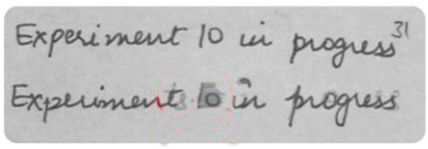
Item	Specification	BSSVC-2000B
Host	The host	●
Light source system	Uniform strong light source, 1* 24V/150W tungsten halogen lamp, equipped with a dedicated cooling fan, condenser lens, and heat-insulating glass.	●
	UV long wave, 365nm, 1* 10W, for visible fluorescence observation.	●
	Visible side light, 1* 12V/50W LED lamp, capable of detecting infrared absorption and reflection, with angel adjustable lamp holder	●
	Perspective white light lamp, 2* 20W, capable of detecting watermarks.	●
	Excitation filters for visible light sources, using high transmittance, narrow half width bandpass filters at 000nm, 365nm, 440nm, 530nm, 555nm, 585nm and 615nm.	●
	Reception filters, 000nm, 450nm, 565nm, 700nm, 720nm, 800nm and 900nm cut-off long wave pass filters.	●
Image System	The high-sensitivity camera, a 1/3" CCD color camera with a resolution of 800 TV lines and a sensitivity of 0.0001 Lux. High resolution and sensitivity for both near-infrared and visible light spectral ranges.	●
	Motorized zoom lens: The relative aperture of lens is 1.2. The aperture, focusing, and zoom magnification (1X-30X) are all electrically adjustable.	●
PC	Laptop	○
Software	Professional criminal investigation image processing software	●

Sample Images









Video Spectral Comparator

BSSVC-2000B

Introduction

BSSVC-2000B Video Spectral Comparator is identifying alterations, covering up, adding, repairing, fading, forgery of documents, and encrypting documents, seals and receipts, fluorescence inspection, handwriting indentation, forging marks, fingerprint traces, trace evidence, ink detection, seal comparison, image measurement, image processing, etc. BSSVC-2000B Video Spectral Comparator includes host, digital camera, laptop and criminal investigation image processing software.

Features

1. Light Source system

Uniform strong light source: 1* 24V/150W tungsten halogen lamp, equipped with a dedicated cooling fan, condenser lens, and heat-insulating glass.

UV shortwave: 254nm. 1* 10W, for visible fluorescence observation.

UV long wave: 365nm: 1* 10W, for visible fluorescence observation.

Diffuse reflection fluorescent lamp: 220V LED warm light lamp.

Visible side light: 1* 12V/50W LED lamp, capable of detecting infrared absorption and reflection, with angel adjustable lamp holder, for detecting indentation.

Perspective UV lamp: 2* 10W, for printing ink.

Perspective white light lamp: 2* 20W, capable of detecting watermarks.

Excitation filters for visible light sources: using high transmittance, narrow half width bandpass filters at 000nm, 365nm, 450nm, 465nm, 515nm, 530nm, 565nm, 580nm and 900nm

Reception filters: 000nm, 415nm, 450nm, 565nm, 700nm, 720nm, 740nm, 800nm and 900nm cut-off long wave pass filters.

Image system

The high-sensitivity camera: a USB 3.0 CMOS camera with 1/2.8" sensor and 2MP resolution.

Output: HD video output up to 1080p 60fps, supporting Windows, Linux.

Motorized zoom lens: 30X optical zoom (4.3-129mm) and 12X digital zoom.

Camera	
Item	**Specification**
Sensor	1/2.8" SONY CMOS sensor
Effective Pixels	1980(H)*1080(V)
Video Output	1080p/60(50)fps, 1080p/30(25)fps, 720p/60(50)fps, 720p/30(25)fps
Minimum Illuminance	Color 0.01lux/ DSS 0.0013 lux
	Mono 0.0015lux/ DSS 0.0008lux
Signal to noise ratio	More than 50dB (AGC close)
Magnification	30X optical zoom, 12X digital zoom
Focal Length	F=4.3mm-129mm
Aperture	F1.6 (wide)-F1.8 (tele)
Field of View Angle	63.7
Interface	USB 3.0
Supporting Operation System	Windows, Linux
Power Supply	DC 6-12V
	300mA
Working Temperature	-10°C~+50°C/ 0%~90% RH
Size	59.2mm (W)*62.2mm (H) *85.6mm (D)
Weight	0.28kg

Image processing software

The storage/printing function: it can store all images and data obtained by the video spectral comparator during the inspection process, and can be used in conjunction with a printer to print out the required images.

The comparison function: it can perform horizontal and vertical stitching or overlapping comparison between two detected images. Static and dynamic images can be compared in real-time.

Gray value measurement: it can measure the gray value of any specified point or area in the image. And the grayscale changes at that location under various detection conditions can be displayed in the form of curves. This method is particularly advantageous for identifying subtle grayscale differences between different texts in the image formed by the inspected document that are difficult for the human eye to detect.

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Application

BSSVC-2000B is mainly used for identifying alterations, covering up, adding, repairing, fading, forgery of documents, and encrypting documents, seals and receipts, fluorescence inspection, handwriting indentation, forging marks, fingerprint traces, trace evidence, ink detection, seal comparison, image measurement, image processing, etc. It is an ideal choice for Public Security Bureaus, procuratorates, courts and their colleges. It also can be applied to electronic, biochemical, agriculture, archaeology, banking, Customs and industries or sectors who have the requirements to detect or identify objects.

Specification

Item	Specification	BSSVC-2000B
Host	The host	•
Light source system	Uniform strong light source, 1* 24V/150W tungsten halogen lamp, equipped with a dedicated cooling fan, condenser lens, and heat-insulating glass.	•
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	UV long wave, 365nm, 1* 10W, for visible fluorescence observation.	•
	Diffuse reflection fluorescent lamp, 220V LED warm light lamp.	•
	Visible side light, 1* 12V/50W LED lamp, capable of detecting infrared absorption and reflection, with angel adjustable lamp holder	•
	Perspective UV lamp, 2* 10W, for printing ink.	•
	Perspective white light lamp, 2* 20W, capable of detecting watermarks.	•
	Excitation filters for visible light sources, using high transmittance, narrow half width bandpass filters at 000nm, 365nm, 440nm, 530nm, 555nm, 585nm and 615nm.	•
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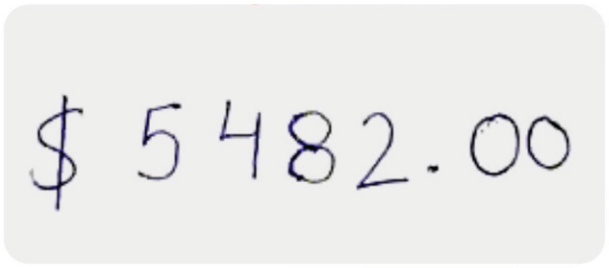
Image System	The high-sensitivity camera, a 1/3” CCD color camera with a resolution of 800 TV lines and a sensitivity of 0.0001 Lux. High resolution and sensitivity for both near-infrared and visible light spectral ranges.	•
	Motorized zoom lens: The relative aperture of lens is 1.2. The aperture, focusing, and zoom magnification (1X-30X) are all electrically adjustable.	•
PC	Laptop	•
Software	Professional criminal investigation image processing software	•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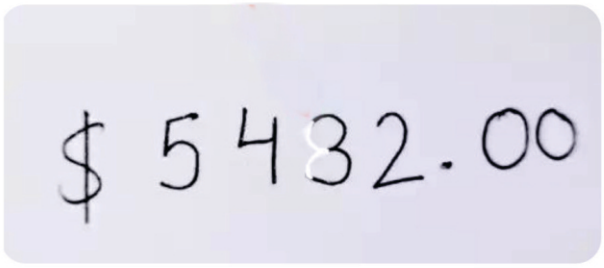
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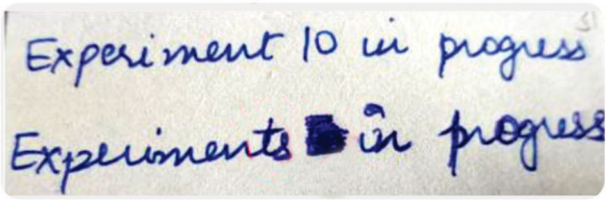
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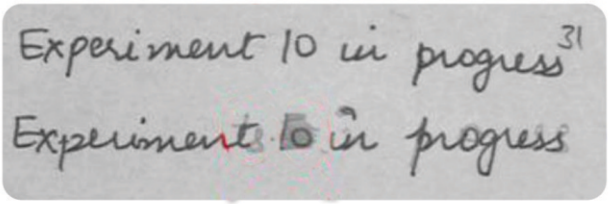
Experiments in progress


Experiment 10 in progress
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