

## Spectral luminescent magnifier Regula 4177



**The magnifier is intended for advanced authenticity verification of passports, ID cards, and other travel documents, visa stamps and seals, including but not limited to entry permits, banknotes, driver's licenses, vehicle registration certificates and other vehicle related documents, signatures and handwriting fragments, revenue and special stamps, securities and other documents with security features.**

**Regula 4177** is a compact USB device designed in a plastic body in the form of a computer mouse. The product power supply, control, displaying and processing images are carried out via a PC and [Regula Forensic Studio](#) software.

The magnifier can be used as a separate authenticity verification device or together with a light table [Regula 4167S](#), an optical module [Regula 4178](#), [information reference systems](#).

## Functionality

- Obtaining and processing of images
- **Examinations on different levels**
  - **protection of the document basis**
    - security fibers, planchetes, security threads, holograms, foil stamping, pole feature, transparent vanish coating, etc.
  - **printing methods**
    - *intaglio*: texts, guilchoe frames, rosettes and vignettes, microprinting, latent images and moire patterns, signs for the visually impaired, blind embossing, colour shifting ink, including OVI with embossing and latent images, etc.
    - *letterpress*: serial numbers, texts, barcodes, etc.
    - *offset printing* including Orlov and rainbow printing: texts, microprinting, moire patterns, background and anti-copy patterns, etc.
    - *screen printing*: security features with optically variable effects, etc.
    - perforation
  - **physico-chemical protection**
    - anti-Stokes luminescence
    - UV luminescence
    - IR luminescence
  - **complex security features**
    - security features with IR-metameric ink
    - special polymer coating of security laminates
    - metallized coating
    - laser engraving
- **Additional examination of**
  - fragments of document images depending on the degree of absorption or reflection of IR light
  - document alterations such as erasure, etching etc.
  - traces of signature forgery
  - extraneous lines (do not originally belong to the examined object) that are performed with IR opaque inks
  - blurred, crossed out entries, texts and images
  - document mechanical defects such as cuts, tears, folds, etc.

## Application

- Border control and immigration services
- Customs authorities
- Law-enforcement agencies
- Forensic laboratories
- Financial institutions
- Other agencies and organizations authorized to check documents

## Delivery set

- [Regula Forensic Studio](#) software for displaying video, device control, storing and processing of images

Light sources		
White	incident	
	oblique	
Ultraviolet incident 365 nm		
Infrared, nm	incident	870
		940
	oblique	880
		high-intensity
High-intensity incident green 530 nm		

Imaging parameters		Model	
		4177	4177-5
Sensor type		CMOS, 3,1 MP	CMOS, 5 MP
Dynamic range, dB		61	70
Resolution, ppi		4 700	5 900
Colour model		RGB	
Colour depth, bit		24	
Frame size, pixels	Basic mode	1024×768	1296×972
	HD	1280×720	1280×720
	Full HD	1920×1080	1920×1080
	Full Frame	2048×1536	2592×1944
Field of view, mm		11,1×8,1	10,5×7,8
Magnification, times, max		3,5	
Magnification for a 21 inch monitor, times		35-110	37-114

Camera filters:

- IR low-pass with threshold, nm — 660
- IR high-pass with threshold, nm — 700

Connection interface — USB 2.0

Dimensions (length×width×height), mm, not more than — 94×62×52

Weight, kg, not more than — 0,2

Power supply voltage, V — 5

Power consumption, W, not more than — 2,5

### PC requirements

- Minimum configuration:
  - OS — Microsoft Windows 10
  - processor — Intel® Core™ i5 3.0 GHz
  - RAM, GB — 4
  - minimum free disk space, GB — 1

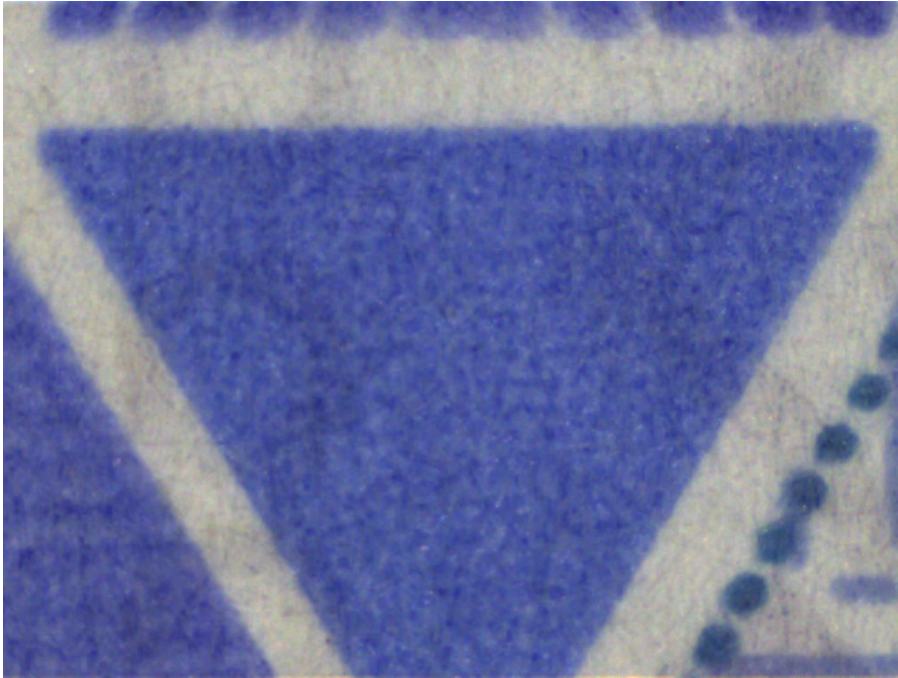
- display resolution, pixels — 1600×1200
- connection interface — USB 2.0
- Recommended configuration:
  - OS — Microsoft Windows 10
  - processor — Intel® Core™ i7 3.4 GHz
  - RAM, GB — 16
  - minimum free disk space, GB — 1
  - display resolution, pixels — 1920×1200 or higher
  - connection interface — USB 2.0



White top light 1x



White top light 3x



White top light 5x



White oblique light 1x



Ultraviolet top light (365 nm) 1x



Infrared top light (870 nm) 1x



Infrared top light (940 nm) 1x

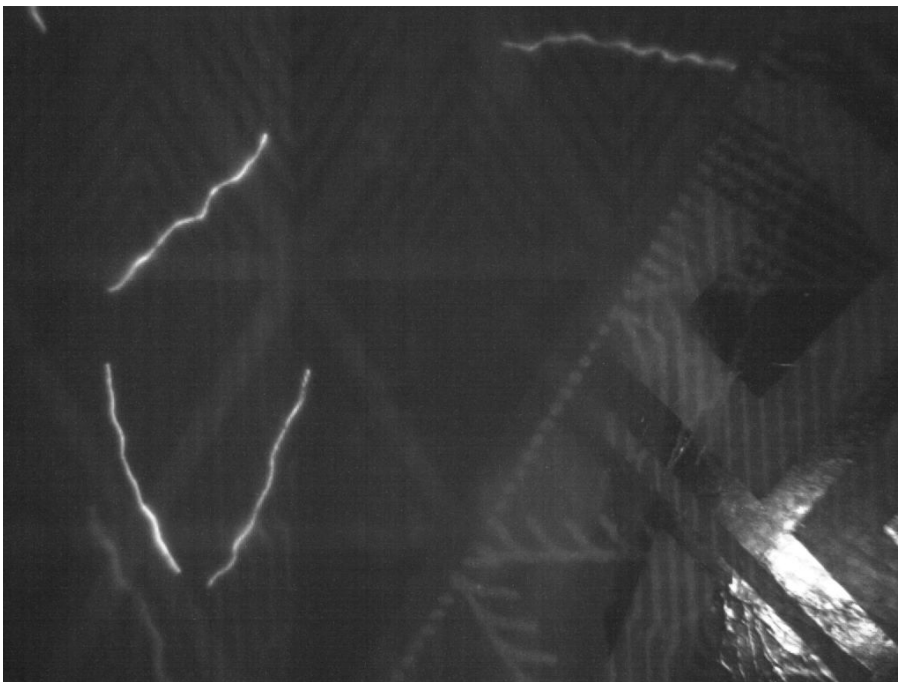


Infrared oblique light (880 nm) 1x





High-intensity Infrared light (980 nm) 1x



High-intensity top green (530 nm) 1x