VORON

Concealed micro video cameras detector

OPERATION MANUAL

Version: March 2013

Contents

Purpose

The VORON is designed for quick detection of concealed micro video cameras including those with pinhole lenses.

Main features

Principle of detection is based on the effect of light reflection or “return flare”. When a concealed target is detected, a red bright spot (reflection from video camera lens) appears in the VORON field of vision.
The VORON employs LED illumination of targets, thus making the device usage safe for the operator (unlike laser illumination).
Operation in optical, but not in radio frequency range allows detecting any optical devices, regardless of their mode (on/off) and type of transmission (radio or cable). Radio interference, electromagnetic shielding, masking gauze and lens hoods do not prevent from detection of video cameras.
Dioptre correction allows almost everybody to operate the device.
Technical solutions used in the VORON (roof

prism and translucent optics) combine compact design with excellent optical characteristics: high magnification, wide field of view and exceptional quality of image.
Effective impulse source of power supply insures 6 hours of operation on one AA-type battery (1,5 V).

Precautions

The VORON reliably functions under normal as well as extreme conditions. But drastic changes of temperatures and humidity require more careful observance of recommendations concerning operation and servicing of the device to insure its failure free operation.
Since the VORON is a complex optoelectronic device requiring careful handling, *it is not recommended:*

- Let the device fall on hard surfaces
- Leave the device under direct sunlight or in premises with temperatures higher than 50°C for a long time
- Subject the device to abrupt and continuous cooling at temperatures lower than -20°C

- Let water and moisture on the device
- Use chemicals and abrasive compounds for cleaning
- Open and disassemble the device (in this case manufacturer's warranty is discontinued)
- Aim at people eyes.

Description and specifications

Overlook

VORON is small-size electrooptical device intended for fast detection and position location of hidden (camouflaged in furniture, clothes, accessories, etc.) micro video cameras, including the one with "Pin-hole" lens.

Technical Characteristics

Distance of ø 1 mm pinhole lens detection, m	1 ÷ 50
Magnification	5x
Angle of view, °	12

Linear field of view at distance of 10 m, m	2,1
Diopter correction range	±4
Diameter of exit pupil, mm	4,5
Voltage, V	1,5
Operation on one battery, h	6
Dimensions, mm	50 x 68 x 140
Weight, g	330

Design

The VORON is a functionally complete and service free device. The milled metal casing provides mechanical reliability and electromagnetic shielding.

If repairs or servicing is required, call the Supplier.

The device casing made of lightweight aluminum alloy, has a hand strap and a soft rubber eye shade.

The VORON is very simple to operate and does not require special skills.

Operation principle of the device is based on “reverse glint” effect, when the ray from the light source, which is situated on the video camera optical axis, is reflected by the lens and video camera photodetector like by the mirror and directed back to the light source. So in case of finding hidden object in sight of the device bright red spot is observed.

The device operates in two modes:

- Active mode, with lighting of object by red LEDs in the near field
- Passive mode, without lighting

Lighting of the object guaranties operation safety and absence of damage effect to the sight (unlike laser illumination).

Operation in optical range makes it possible to detect any optical devices (including video cameras) regardless of their state (on/off) and information transfer type (via radio channel or cable). Radio-electronic noise, electromagnetic screening, masking grids and blends don’t impede camera detection.

Diopter adjustment makes it possible to take into account peculiarities of vision of every person who works with the device.

Engineering solutions of the device (Roof prism system and multilayer blooming) enable to develop compact device with excellent optical features including high magnification, wide visual field and high image quality, which quicken scanning and lower object missing.

High-performance switching power supply provides long operation time from “AA” element with 1,5V voltage.

Preparation for operation

- Unscrew the battery compartment cover
- Observing polarity insert one AA-type battery, mind the polarity
- Fix the battery compartment cover
- If necessary clean the lens and the eye glass with a cloth for optical surfaces
- Take off lens cover
- Turn on the device by pressing the red button
- If necessary make dioptre correction
- The device is ready for operation

Operating the device

Before search, determine room's functionality: office cabinet, rest room, etc. As a rule, concealed video camera is directed at some specific zone: negotiation table, work place, rest place.

Pay attention to the fact that video cameras can be placed not only in walls, ceilings, but also in interior items (furniture, pictures, books, watches, etc), fire and burglar alarms, office and home appliances, cases, handbags and so on. Search room surfaces and interior items carefully moving the device eye-piece in search zone from left to right and from top to bottom.

ATTENTION!
The optimal distance from the inspected surface to the operator is around 3 – 6 m.

In case of detection of concealed video camera a bright red spot (reflection from video camera lens) appears in the device field of vision.

Have in mind that several video cameras can be installed in one room.

While inspecting reflective surfaces (items) the device can cause bright glares and ambient light in the eye-piece. To avoid such an effect make sure that there is no right angle between the device and reflective surface.

Detection peculiarities of objects with reflecting surfaces

When scanning objects with reflecting surfaces (mirror, glass, furniture with lacquer finish) right re-reflection of radiation and intense exposure in ocular can appear.
To avoid this situation it is necessary to stand thus there is no right angle between the device and reflecting surface.
Detection reliability is the same in this case.
When receiving the signal resembling hidden camera detection use the same way to clarify as when scanning reflecting surfaces.

Operation under low temperatures

If it is necessary to move the device from low temperature environment to a place with much higher temperature it is recommended to put it in

a tightly closed plastic bag and wait till the device will warm up. If not to do so moisture will condense.

Operation under high temperatures

The device functions normally under temperatures not higher than 50°C. If possible, keep the battery from heat and direct sunlight.

Operation in humid environment

In humid environment, it is necessary to keep all optical surfaces clean and dry. Clean them with special cloth for optical surfaces. Also, remove moisture from metal surfaces with a soft cloth.

In box:

- VORON detector
- Hand strap
- User Manual

Storage

Store the device at temperatures of +5 - +45°C, humidity – not more than 85%. Keep away from direct sunlight.

Warranty

The manufacturer guarantees no-failure operation and all operating characteristics during 1 (one) year after the date of shipment by the producer provided the customer follows all the rules, stipulated in the documentation. Mechanical damage deprives the user of the warranty.
In case the manufacturer is responsible for malfunction or failure of the device, it is guaranteed to be fixed or exchanged for free during 30 days after the date of receiving faulty item.
Warranty does not cover batteries.
Repairs or replacement of the device in the post-warranty period is to be made according to the additional greement.

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