



## Purpose

Digital Hidden video cameras detector "ARCANE" is designed for remote detection and localization of powered hidden video cameras which are installed outside, indoors, concealed as objects or body-worn. ARCANE is able to detect both analogue and digital cameras regardless of concealment and video transmission methods. Thus, unlike the detectors of video cameras operating on the optical principle or nonlinear locators, "ARCANE" does not require a close monotonous inspection of the entire room, people and objects, but allows you to determine the presence of a hidden video camera near you and then find it in seconds.

ARCANE SEL PRO has the ability to communicate via Bluetooth with a smartphone to control and transmit information to it, which allows you to instantly detect the presence of nearby (from 1 to 2 meters) hidden video cameras and search for them unnoticed by others.

## Operating principle

"ARCANE" differs by its simple control, at the same time essentially is a unique "pocket" high-precision electronic measuring complex consisting of a high-speed measuring receiver of electromagnetic interference (EMF receiver), a signal spectrum analyzer and a microcomputer for data processing.

ARCANE's operating principle is based on detection and analysis of specific parts of electromagnetic spectrum in order to find stray emission which is unique for video camera electronic circuits.

Detecting electromagnetic noise signals similar to emissions from video cameras, ARCANE examines and analyzes them for all spectral components, comparing them with the "images" of signals stored in the device's memory, as well as the presence of lowercase or frame pulses in them, using a specially developed technology Row Detect Tech (RDT).

**IMPORTANT TO KNOW!** Spurious radiation from some digital circuits, which are used in video players, laptops, automotive electronics, etc. may coincide with the "images" of video cameras, therefore, the device provides independent formation of a "white" list of signals from localized "non-hazardous" sources - this allows them to be automatically excluded during further hidden video cameras and video recorders search works.

## Delivery set

1. Device «ARCANE»
2. Charger
3. Cable USB – USB Type-C
4. Antenna
5. Stylus for calibration and operation
6. User Manual
7. Transport case

## Technical specifications

When operating with the device it is not allowed of any mechanical influences and work at low negative temperature of environment.

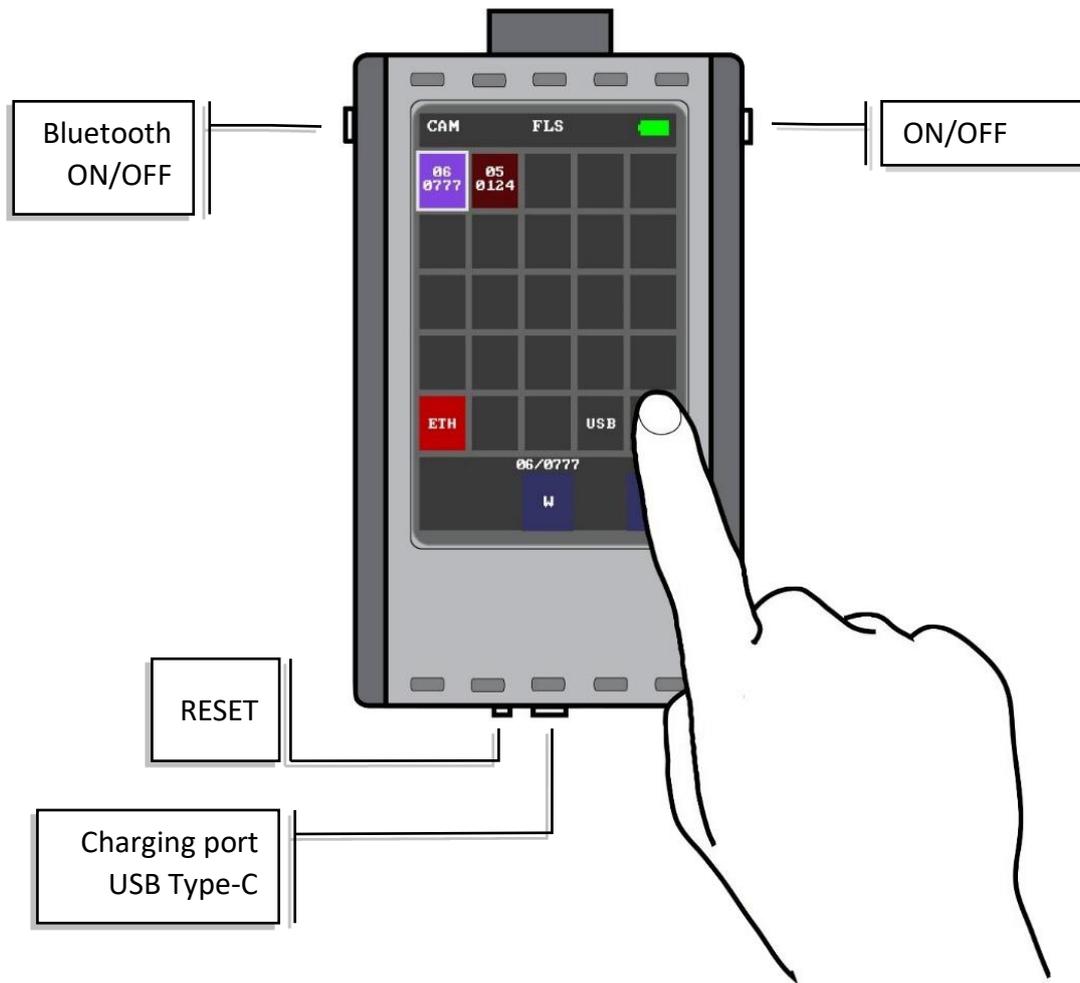
The number of "images" of signals in the device memory	16
Detected digital cameras	ETH; USB; FLH
Detection time (average)	2 sec
Analysis time (average)	5 sec
Continuous operating time	not less than 2 hours
External antenna	cylinder
Touch screen type	colour, 74 mm
Power supply battery(inner)	accumulator Li-Pol
Power supply and charging	5V/2A USB Type-C
Charging time	not more than 3 hours
Data transmission protocol via Bluetooth	BLE 5.0
Dimensions (without antenna)	80 x 130 x 20 mm
Dimensions of antenna	127 mm, D=16 mm
Weight (with antenna)	not more than 300 g

### Types of devices and signals detected by the device:

1. Analog video cameras CCIR, CVBS (PAL, NTSC)
2. Digital video cameras AHD, CVI, TVI, PVI
3. Digital IP video cameras and devices (Ethernet)
4. Digital USB video cameras (UVC, OTG)
5. Video recorders with USB flash memory
6. Digital video recording devices on SD memory cards
7. Digital video recorders (DVR)

**IMPORTANT TO KNOW!** The detection range of video cameras depends on the electromagnetic environment in the search area, as well as the characteristics of the source (signal strength, degree of shielding, etc.) and can range from 1 to 25 meters!

## ARCANE Overview



### Working with ARCANE device

To turn on the device, press the power button and hold it until the **ARCANE** logo will appear on the screen (information about the firmware version is displayed at the bottom of the screen)

### ARCANE automatically switches to the search mode of signals and video cameras



Information about detected video cameras and suspicious signals is displayed on the "main screen" of the device - there are "cells" with numbers (bin file) in the form of table cells, the fields of which are highlighted in shades of red (depending on the degree of probability of matching with the "images" of cameras) or lilac (when a line or frame pulses RDT is detected in the signal).

## The main screen consists of two pages in the form of tables with cells

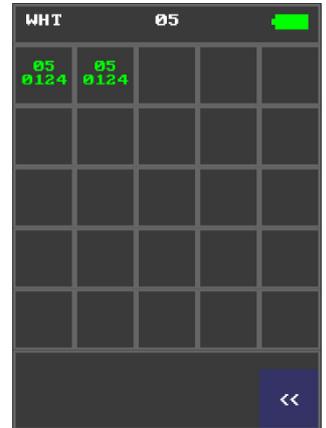
The battery level is displayed in the upper-right corner of the screen, the current position of the device's operating mode is in the center, and the screen page designation is on the left. The active buttons are located at the bottom of the screen



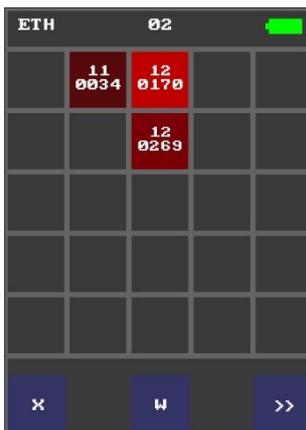
**On first page** displays information about the video cameras found by the device and the detected signals.

**On second page** displays information about devices that are included in the “white” list of non-dangerous signals.

**Switching of pages** is made by the button in the lower right corner of the screen.



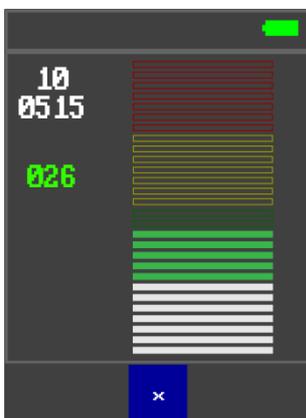
## Information About ETH Signals of Digital Sources



The detected signals emitted from devices, which are using Ethernet protocol (IP cameras, computers, Wi-Fi routers, switches and other peripheral devices) are grouped in the “ETH” cell (the cell is colored in red).

To view the list of detected signals, press and hold for two seconds with your finger or stylus on the “ETH” cell.

## Search for Video Cameras and Signal Sources Detected by the Device



Press and hold the selected table cell for two seconds with your finger or stylus, and a multi-colored scale (column) with the signal level will appear on the screen. To the left of the scale, information about the signal is displayed.

Moving with the device around the room (territory), achieve the maximum readings of the received level. Find and identify the source of the signal.

If the source is “non-dangerous”, move it to the “white list” by pressing the “W” button. To return to the main screen, press the “X” button.

## Adding Cell to "White List"

By creating a "white list" of non-dangerous signals, you increase the speed of "ARCANE" in the search mode for newly appearing video camera signals. After the power is turned off, the "white list" is automatically erased and when a new search is made, such signals will again become "red".



To move the cameras to the "white" list from the home screen, first touch the selected cell with your finger or stylus (it is highlighted with a white border), and then click on the "W" button – the cell with information automatically moves to the second page of the screen and turns green.



The device provides a mode for automatically transferring all currently detected signals to the "white" list. To do this, on the main screen, without selecting a specific cell, press the "W" button. You will be asked to start the automatic detection mode and transfer signals to the "white" list.

In order for the information about the "non-dangerous signals" to be saved after switching off, it must be written to the long-term flash memory of the device.



To do this, select a single cell (highlighted with a white border) and press the "ROM" button, you will be asked to write the information to the internal memory of the device. The stored cell will be displayed with the "\*" icon. Pressing the "W" button returns the information back to the home screen.



**IMPORTANT TO KNOW!** Information from the "ARCANE" Flash memory is automatically erased when updating the firmware!

### Mode of USB Video Camera Search and Detection

ARCANE detects devices, which are using USB protocol for information transmission, such as USB WebCam, Easycap or UVC camcorders.



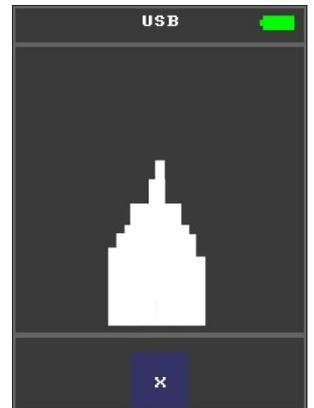
To enable or disable the mode of detecting USB cameras, briefly press the stylus or your finger on the “USB” cell, the “On” or “Off” checkbox will appear in the lower left corner of the screen.

If the mode is active, the **USB** lettering will be highlighted in white.

If a USB camcorder is detected, the cell turns red.



For searching and localizing the detected video camera press the cell and hold for two seconds, then a scale (column) with the signal level will appear on the screen.



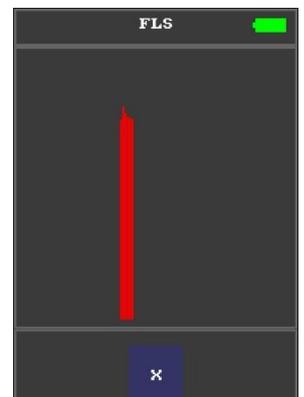
### Detection Mode of Digital Video Recorders Recording on an SD Memory Cards

ARCANE detects miniature digital video recorders (DVR) which are using flash memory (SD and micro SD memory cards). To enable or disable the mode, briefly press the the cell "FLSH", the “On” or “Off” checkbox will appear in the lower left corner of the screen. If the mode is active, the **FLSH** lettering will be highlighted in white.

In case of detection, the cell turns red.

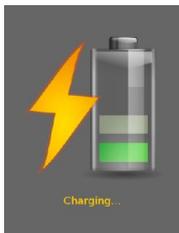


To search and localize the detected video camera press the cell and hold for two seconds, then a scale (column) with the signal level will appear on the screen.



## Turning off and charging of «ARCANE»

To turn off the operating device, press and hold the power button until the "Power off" message appears on the screen, after which the button can be released.



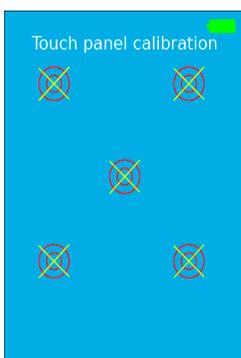
When the USB cable is connected, the device turns off automatically and switches to battery charging mode.



## Device reset

If the device "freeze" due to a program malfunction for any reason, it is necessary to perform a hardware reset by pressing a pin through the hole in the housing on the R button - "Reset", "ARCANE" will reboot and require screen calibration.

## Touch panel calibration



Calibration is performed by pressing the sharp end of the stylus (supplied in the delivery set) into the centers of the "crosshair" of the circles appearing on the screen.

After each pressing, the image will move sequentially: to the upper right corner, the lower left corner - to the lower right corner, to the center of the screen.

After successful completion of the calibration, "ARCANE" will automatically enter the camera search mode.

If necessary, you can enter the screen calibration mode when you turn on "ARCANE": while the screen logo is on, press and hold your finger on the screen.

## Device control using BLUETOOTH channel

ARCANE can be controlled remotely using an Android device via BLUETOOTH. To do this, on your Android device it is needed to install the application **Arcamer** in Google Play.



<https://play.google.com/store/apps/details?id=com.suritel.arcanh7>



With ARCANE turned on, turn on BLUETOOTH on the Android device and run the installed application. Select the active ARCANE device in the program window.

After connecting to the device, the control screen of the ARCANE will be displayed on the screen of the Android device.

## Content of precious materials and metals

There are no precious materials and metals in the ARCANE device.

### Repair

Repair of the Device is carried out at the manufacturer at the address: 125319, Moscow, ul. Usievich, 5; tel./fax: (495) 223-62-22, 974-90-77.

### Transportation and storage

#### Transportation:

The device in a packed form can be transported by all means of transport at temperatures from -40 ° C to +50 ° C and relative humidity up to 80% at +25° C.

The container with the device on vehicles must be secured to prevent movement and collisions. Dropping is not allowed.

#### Storage:

The Product should be stored in a dry, well-ventilated warehouse, away from heating appliances with the absence of acid, alkali and other atmospheric impurities in the air.

#### Storage conditions:

- temperature range from + 1 to + 40° C;
- relative humidity (at a temperature of + 25° C) no more than 80%;
- atmospheric pressure 740 ± 40mm Hg

### Manufacturer's warranty

The warranty period for the Product is 24 months from the date of sale.

Warranties do not cover defects arising from violations of the rules of handling, maintenance, storage and transportation.

Opening the Product and disassembling its component parts deprives the consumer of the right to free warranty service.

After the expiration of the warranty period, the manufacturer provides a paid supply of spare parts and accessories. The composition of spare parts and the terms of their delivery during the service life of the device must be specified in the contract (agreement).

Warranty obligations for ARCANE apply only when the consumer submits this user manual with the manufacturer's mark of sale, certified by the official round seal of the manufacturer.

### Disposal

**IMPORTANT TO KNOW!** Used power supplies and batteries are hazardous waste and are subject to disposal by licensed organizations (Federal Law "On Production and Consumption Waste").

The device without a battery does not contain dangerous or toxic substances that can harm human health or the environment and does not pose a danger to life, human health and the environment. At the end of its service life, its disposal can be carried out according to the rules for the disposal of general industrial waste.