

Hidden Camera Detector

S-200 «ARCANE»

Operation manual



2018

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Intended use

Hidden video cameras detector "ARCANE" – further by the text the device 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. Device detects both common wired and wireless cameras, as well as cameras that are storing data on an internal memory bank, which gives ARCANE an obvious advantage over other instruments for camera detection, such as Optical Detectors or NLJDs. ARCANE does not require the operator to thoroughly and slowly search the entire premises or a person, it takes seconds for ARCANE to tell if there are any cameras which could then be easily localized.

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.

Upon detection, such signals are evaluated and correlated with the spectral "images" database which is stored in ARCANE's memory.

There is a self-supporting formation of a "white" list of signals from localized "non-dangerous" sources - this allows automatically exclude them during further work for searching hidden video cameras. Information about detected video cameras and suspicious signals is displayed on the touch screen in the form of table cells whose fields are highlighted in shades of red. By clicking on the cell, you can select a specific video camera, and from the displayed signal level, perform a search in the surrounding environment. For more accurate localization of hidden video cameras is provided a detector of camera lenses by its optical glare.

Package contents

1. ARCANE device with a regular antenna
2. Battery Charger
3. USB cable
4. Stylus for calibration and work with the touch screen
5. Detector for camera lenses
6. User manual
7. Bag for storage and transportation

Additionally, test signal emitters and training materials may be included.

Technical specifications

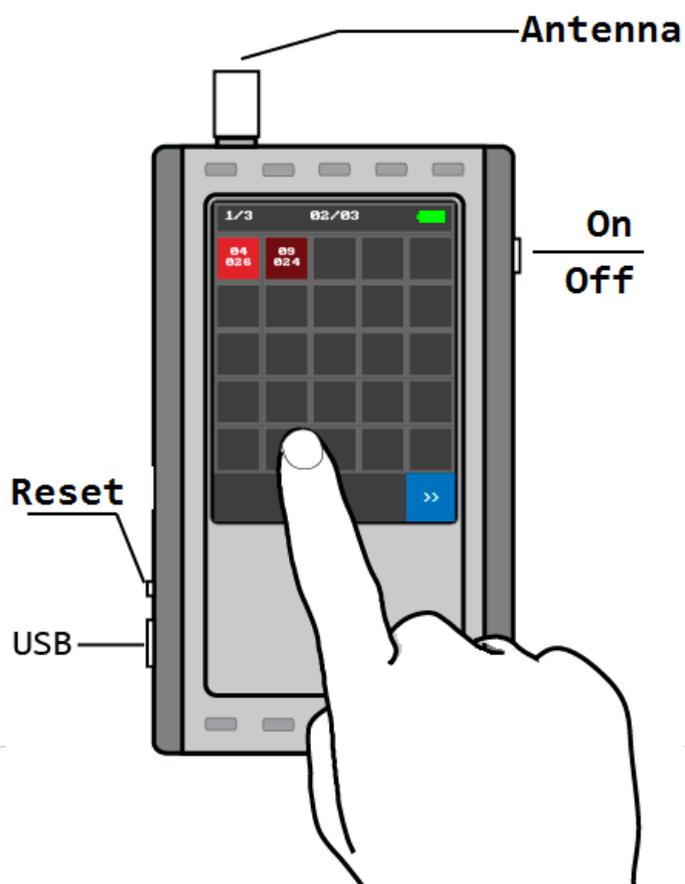
When operating with the device it is not allowed of any mechanical influences and work at low negative temperature of environment.

Receiver sensitivity	-148 dBm
Dynamic range	80 dB
Detection time (average)	3 s
Analysis time (average)	10 s
Continuous operating time	3 hrs
Battery full recharge time	not more than 3,5 hrs
Antenna type	cylinder broadband
Antenna pattern type	circular
Touch screen type	colour, 74 mm
Battery	Li-Pol, 4100 mAh
Physical dimensions	85 x 140 x 30 mm
Weight (with antenna)	not more than 300 g
Operational and storage temperature	+1...+40 C ^o
Humidity	Not more than 80% (+25 C ^o)

The technical characteristics and reliable operation of the ARCANE are provided in compliance with the requirements in the user manual.

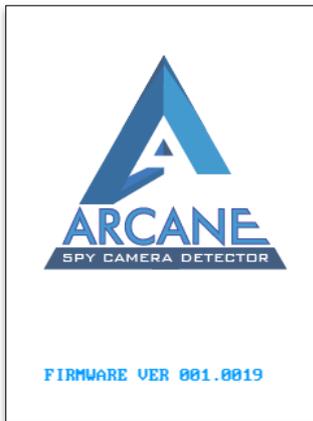
IMPORTANT! Detection range depends on EM characteristics of deployment environment, EM characteristics of the signal source, EM shielding degree, etc. and ranges from 2 to 25 meters!

ARCANE overview



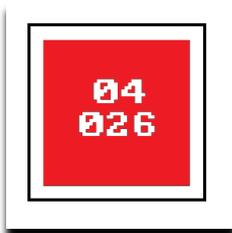
Working with ARCANE device

"ARCANE" has two main operating modes: mode of signal search and the mode of finding (localizing) the sources of signals detected by the device.



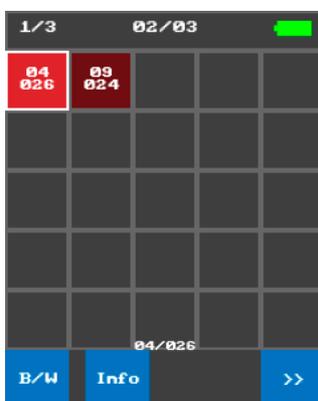
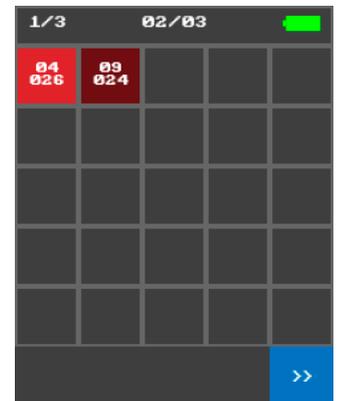
1. Turn on the device by pressing and holding the on/off button located on the right side. As soon as you see the loading screen-release the button (the firmware version is displayed at the bottom of the loading screen). Upon successful loading ARCANE automatically starts scanning the spectrum.

"ARCANE" automatically switches to the search mode of signals from video cameras.



Every detected suspicious signal is displayed on the "main screen" as a colored "cell" with two rows of numbers inside. Fields of which are shone in shades of red (depending on the degree of coincidence probability with the "images" of cameras) and information about the detected suspicious signal (bin-file).

«Main screen» consists of 3 pages of 25-cell arrays, which limits the number of simultaneously detectable signals up to 75. Page number is displayed in a top-left corner. You can navigate through pages by pressing either ">>" or "<<" buttons, which can be found at the bottom of the "main screen". Battery charge level is displayed at the top-right corner of the main screen.



2. The selection of any detected signal is performed by pressing on a "cell" (selected cell will be marked with white outline), which will give access to "B/W" and "Info" option buttons.

«B/W» - Will add the selected "cell" to "white list". Selected cell will be marked and transferred to the end of the array at the last page.

«Info» – Will activate the localization mode, which is used to localize the source of the signal by level.

Localization mode of detected signals source

This mode can be accessed by choosing the «Info» option on a selected "cell".



The screen will display graphs of received signal level, the number and color of which varies, depending on the signal level when approaching or moving away from the signal source (video camera).



Green - the signal is active



Red - the signal is lost.

In order to localize detected signal source, the operator should move around the premises with the device until finding a spot with the highest received signal level. Find and identify the source of the signal. If the source is not dangerous move it to the white list. You can return to "main screen" by pressing the «Info» button again.

IMPORTANT! One camera can emit not only one - but also several types of spurious signals, displayed on the screen of the device with different cells (especially if it is a digital camera, with the function of recording or video data transmission). Computer, housing and automotive electronics can contain circuits that emit stray signals similar to the "images" of video cameras as defined and displayed on the screen of the device (especially if such electronics already had the possibility of installing video cameras).

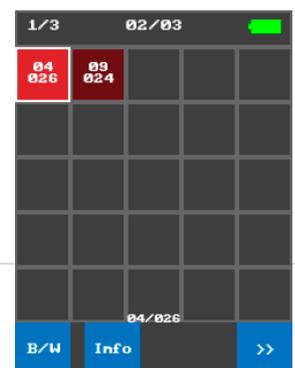


To make the search and detection of hidden video cameras more simple in the kit of "ARCANE" provided a special identifier of hidden video cameras lenses. Direct it to the suspected location of the camera, the surface of the wall or ceiling (detected by the ARCANE device), turn on the backlight - and by seeing a bright dot indicating the location of the lens, detecting the "hidden" camera behind it.

Adding cell to «white list»

Select a cell, then press the «B/W» option button. The cell will be transferred to the last page to the end of the array and will be marked with green-colored font.

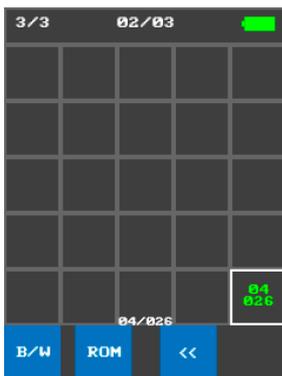
Note! Maintaining a proper «white list» of signals that were identified



as non-suspicious will greatly increase the efficiency and speed of your ARCANE during further search sessions. Please note that «white list» will be erased from ARCANE's memory upon turning it off (if you want to keep the white listed cells add them to permanent memory).

IMPORTANT TO KNOW! In order to keep information about the "non-dangerous signal" after turning the device off, it must be stored into the long-term flash memory of the device.

Adding white-listed cell to permanent memory



Move to the last page of the screen. Click to select cell. At the bottom of the screen, the active buttons «B/W» and «ROM» will appear.

Upon selecting, option buttons «B/W» and «ROM» will appear at the bottom of the screen. «B/W» - will remove selected cell from white list and move it back to first page of the main screen. To store the information into the memory, press the "ROM" button.



Pressing the "YES" button will record the information of the bin file in the device memory. The memory in the memory will be displayed with the "*" in the first line of information. Repeatedly pressing the "ROM" button again will prompt you to erase it from the device memory.



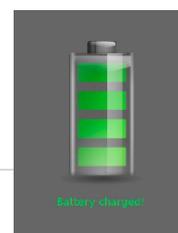
NOTE! Information from the flash memory "ARCANE" is automatically deleted when the firmware is updated!

Turning off and charging.

Turning the device off is performed by pressing and holding the on/off button located on the right side. As soon as you see the "Power Off" message - release the button



Before charging always detach the antenna from the device. Mini-USB charging port is located at the left side.



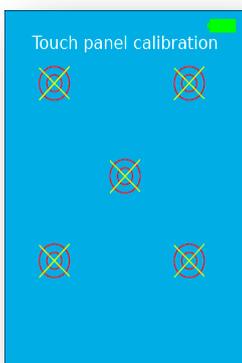
Whenever you plug in the USB power supply to the device, it will automatically turn off and enter the charging mode.

IMPORTANT! Never charge ARCANE with antenna still attached to it - this may result in serious Electro Static damage to pre-amplifier circuit.

Hard reset.

If the device will hang up, or other software issues will occur, you should process "hard reset" by pressing the Reset pin, located on the left side of your ARCANE. Device will reboot and load a touch panel calibration screen.

Touch panel calibration



Touch panel calibration can be done with a sharp end stylus (included in the set), by pressing the center of the targets that will appear in different parts of the screen.

Upon successful calibration, the ARCANE will load the "main screen".

You can access touch panel calibration screen by pressing and holding the screen during loading after turning ARCANE on.