

Multifunctional Detection device

ST-500 "PIRANHA"

Portable new generation multifunctional device ST-500 PIRANHA is designed to detect various types of active eavesdropping devices, which transmit information using radio channel, wires and infrared channel.

Features

- Detection and localization of radio transmitting eavesdropping devices;
- Identification of digital protocols of detected radio signals: GSM, CDMA, Bluetooth, LTE, Wi-Fi;
- Identification of base station signals and mobile digital communication devices;
- Detection and localization of active wired eavesdropping devices;
- Activation of electret cable microphones by applying bias voltage in-line;
- Detection and localization of eavesdropping devices, which are transmitting information in the infrared range.



FUNCTIONALLY, THE DEVICE CONSISTS OF FOUR DETECTION CHANNELS.



1. **SELECTIVE HF DETECTOR** - for detecting of analog and digital (using GSM, LTE, Bluetooth, Wi-Fi standards) radio transmitting eavesdropping devices in the frequency range of 20-6000 MHz;
2. **IR DETECTOR** - for detecting of IR transmitters (eavesdropping devices that use infrared frequency band to transmit the information);
3. **WIRED RECEIVER** - for detecting of high-frequency signals of eavesdropping devices that transmit information via power and low-current wire lines in the frequency range 100 kHz - 180 MHz;
4. **LOW FREQUENCY AMPLIFIER** - for detecting of the low-frequency signals of eavesdropping devices.



Channels

SELECTIVE RF DETECTOR:	
Operating frequency range	20-6000 MHz
Bandwidth	1,20 MHz
Scanning speed	18 GHz / sec
Minimum level of detectable signal	-70 dB
IR DETECTOR:	
Spectral range	0,75...1,1 micron
Angle of view	± 20 °
Minimum detectable power	10 ⁻¹³ W / Hz ½
WIRE RECEIVER:	
Working frequency range	0,1-180 MHz
Scan time of the whole range	2 sec
Minimum detectable signal	-50...-75 dBm
LOW FREQUENCY AMPLIFIER:	
Frequency range	20-25000 Hz
Gain control range	1, 2, 5, 10, 20, 50, 100
Maximum amplitude of the input signal	± 60 V (DC), ± 1 V (AC)



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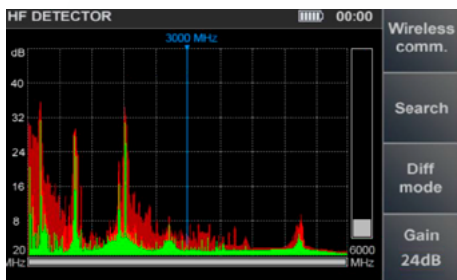
Data Leakage Channels Detection

Functional capabilities

- Detection and location of radio eavesdropping devices:
 1. Radio microphones, telephone radio repeaters, video cameras with radio transmitters, etc.;
- Identification of digital protocols of the detected radio signals: GSM, CDMA, Bluetooth, LTE, WiFi.
- Identification of signals of base stations and mobile digital communication devices.
- Detection and location of active wired eavesdropping devices such as: wired microphones transmitting through permanent and low current lines;
- Detection of signals from eavesdropping devices transmitting over electric mains and low current lines;
- Activation of wired electret microphones by applying a bias voltage to the circuit
- Detection and location of eavesdropping devices that utilize infrared transmissions.

ST-500 PIRANHA allows analyzing detected signals in spectrum analyzer and oscilloscope modes. The device is controlled by using a convenient 12-button keyboard. Connecting the device to a PC and using the original software significantly increases the search capabilities of the device. The interface of the device is simple and intuitively clear. During development of ST-500 PIRANHA the long-term operating experience of previous modifications of the PIRANHA device has been taken into account.

High Frequency Receiver Panorama Mode



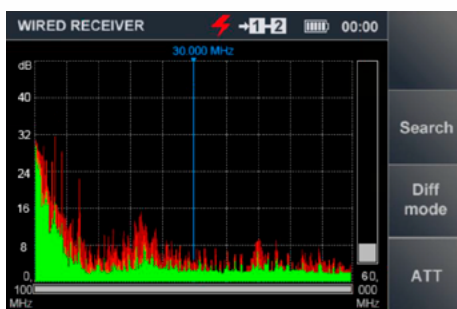
Automatic Search Mode

Total	20 signals	Start	Freq	
1	27.0 MHz	11 dB	12	1791.0 MHz 15 dB
2	56.0 MHz	8 dB	13	1796.0 MHz 21 dB
3	101.0 MHz	15 dB	14	1830.0 MHz 17 dB
4	107.0 MHz	12 dB	15	1893.0 MHz 20 dB
5	173.0 MHz	11 dB	16	1897.0 MHz 16 dB
6	465.0 MHz	41 dB	17	1902.0 MHz 11 dB
7	465.0 MHz	18 dB	18	2442.0 MHz 21 dB
8	893.0 MHz	10 dB	19	2451.0 MHz 19 dB
9	935.0 MHz	26 dB	20	5503.0 MHz 10 dB
10	1230.0 MHz	9 dB		
11	1315.0 MHz	15 dB		

Wireless Communication Analysis

Digital channels	8	16	24	32	40	dB	Mobile
1	CDMA 450						
2	GSM900						
3	GSM1800						
4	3G						Base
5	3G low						
6	DECT						
7	WiFi/BT						User
8	4G/LTE						
9	WiFi 5						

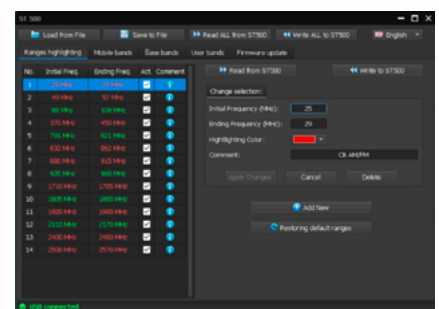
Wired Receiver Panorama Mode



LF Amplifier Mode

PAIR	Vdc	Vac	PAIR	Vdc	Vac
1-2			3-5	0.0	0.000
1-3			3-6	0.0	0.000
1-4			3-7		
1-5			3-8		
1-6			4-5	0.001	
1-7			4-6	0.0	0.000
1-8			4-7		
2-3			4-8		
2-4			5-6		
2-5			5-7		
2-6			5-8		
2-7			6-7		
2-8			6-8		
3-4	0.0	0.000	7-8		

PC Software Support



Specifications

Power supply	built-in lithium polymer accumulator battery with voltage 3.7 V
Power consumption	<1 W
Time of continuous operation at maximum power	>4 h
Recharging time	7 h
Minimum level of detectable signal	-70 dB
Weight	0.47 Kg (main unit) 4.5 Kg (with carry case)
Dimensions	165(L) x 100(W) x 40(H) mm (main unit) 360(L) x 255(W) x 195(H) mm (carry case)