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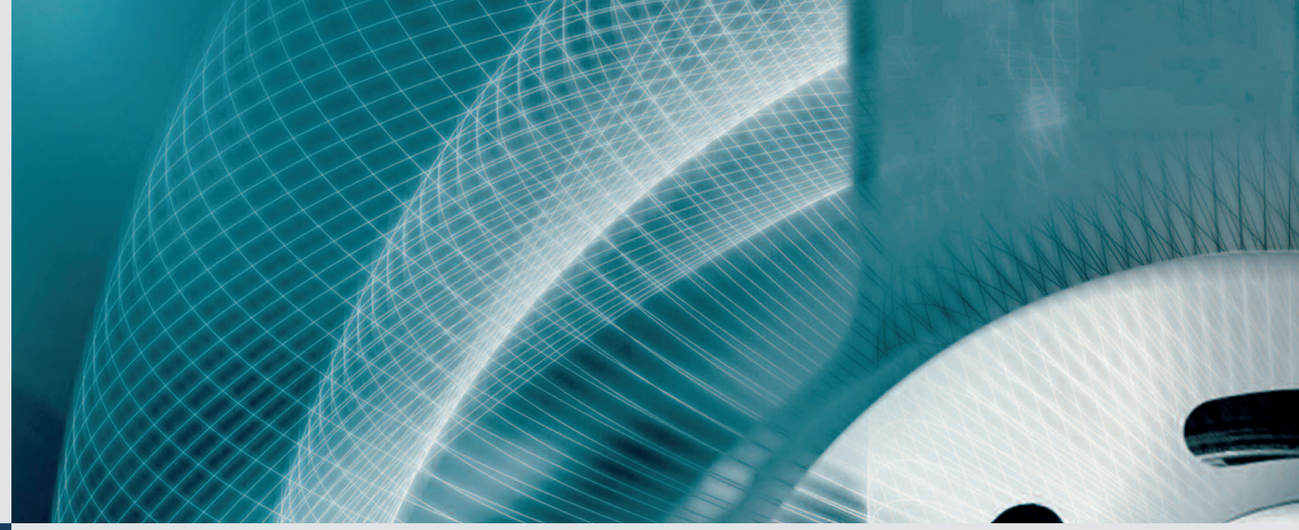

SIGNAL-T

CATALOG 2021

SIGNAL-T

Contact Details

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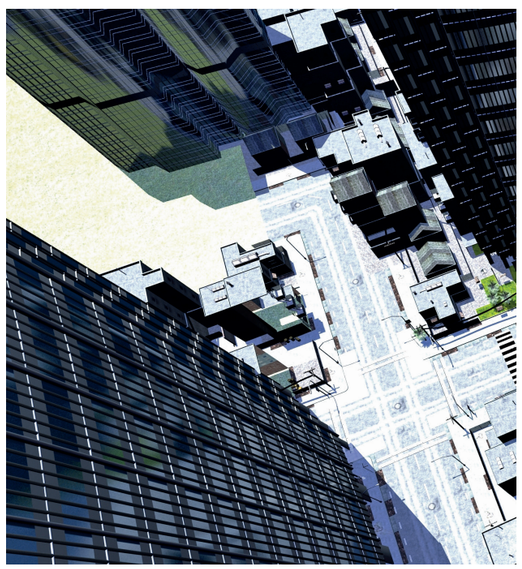


ST 131.S «PIRANHA II»,

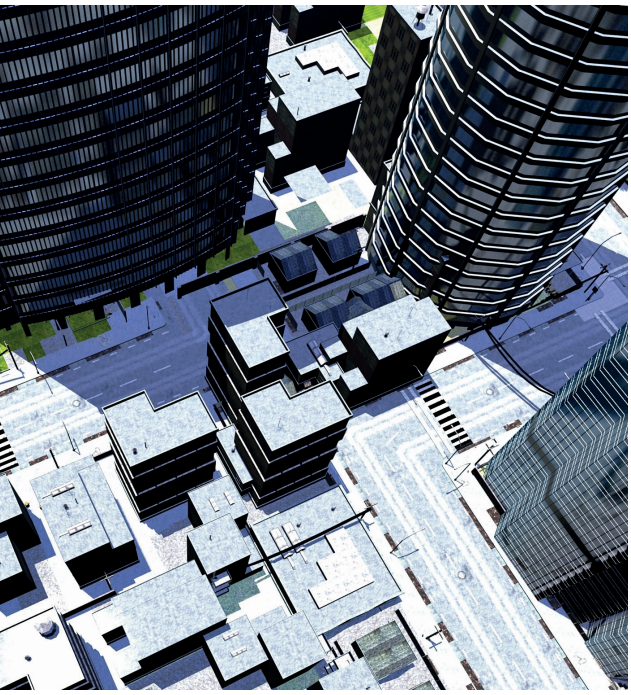
Multifunctional detection device

ST 154

RF Monitoring System

ST 171

JAMMER DETECTOR



ABOUT COMPANY

- The team of company «SIGNAL-T» has been working on Information Security market since 1993.
- The key directions of our activities are development and manufactures of equipment intended for detection of electronic eavesdropping devices.

ST 111
Proffesional RF detector

ST 167 «BETTA»
Search

ST 167W5
Search receiver with option of analyzing WiFi networks

ST 169
Ster of cellular and wireless data jammers

ST 122
Multifunctional Advanced Simulator

ST 181
Base stations monitoring device

ST131.S«PIRANHA II», Multifunctional detection device

SIGNAL-T

PURPOSE

A multifunctional detection device ST131.S is intended for detecting and localization of special technical means (STM) for surreptitious information gathering. The main types of the STM, for detection of which ST131.S is intended, are:

- **The STM with information transfer by radio channel.**
- **The STM uses the following lines for information transfer:** AC power, telephone, coaxial, security and fire alarm cords.
- **The STM with information transfer in the infrared frequency range and ultrasonic frequency range.**

Differences from he previous devices:

- The frequency range of the first channel "Radio" extended to 6 GHz
- The UHF converter is located in the main unit.Wireless cameras.
- The bias voltage supply module is located in the wire line adapter.Devices using digital channels of data transmis-
- sion of the Powered by Li pol type 16650 batteries.
- Keyboard backlight

Construction of ST131.S envisages two basic modes of operation:

- Portable, using the capabilities of the main unit and attachments
- Stationary, using the original software "ST131Analyzer.pro".

ST131.S«PIRANHA II», Multifunctional detection device

DETECTION CHANNELS

CHANNEL»RADIO»

This channel provides the reception and the subsequent processing of radio signals in the frequency range 0.01 - 18000 MHz.

WIRE LINE CHANNEL

This channel provides the reception and the subsequent processing of the signals which are transmitted by wires for different purposes (power, telephone, coaxial, computer networks, security and fire alarm systems, etc.

OPTICAL CHANNEL

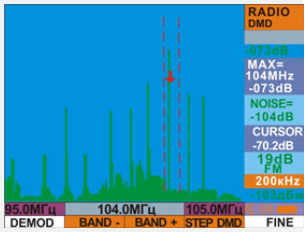
Receiving and processing of the emission in the optical frequency range is provided in this channel.

ACOUSTIC-ELECTRIC CHANNEL

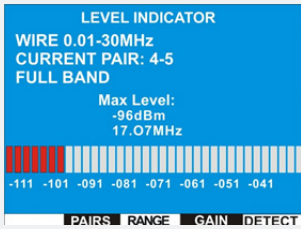
Receiving, amplifying and analyzing of signals within the frequency range of 10 Hz – 125 kHz is provided in this channel.

For the detection of side electromagnetic emission generated by devices such as digital voice recorder, cell phone, smart phone, etc. intended a magnetic field sensor «ST131.S.MF».

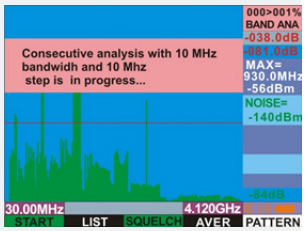
UDIO CONTROL OF THE DEMODU-LATED SIGNAL.



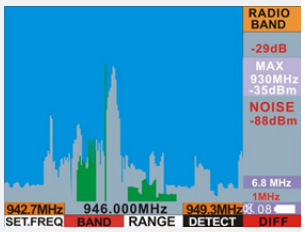
MULTI-SEGMENT SCALE LEVEL OF SIGNAL



AUTOMATIC DETECTION OF SIG-NALS EXSEEDS PREDETERMINED THRESHOLD WITH CREATION OF DATABASE

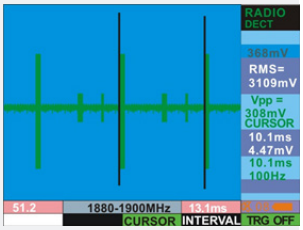


INSTANT AND DETAILED PATTERNS DETAILED PATTERN AUTOMATICALY ADAPTED FOR ANY RANGE



ANALYSIS OF SIGNALS IN THE FREQUENCY AND TIME DOMAIN

ABSOLUTE AND RELATIVE MEA-SUREMENTS USING CURSOR LINES



CREATING A LIST OF SIGNALS IN AUTOMATIC AND MANUAL MODE

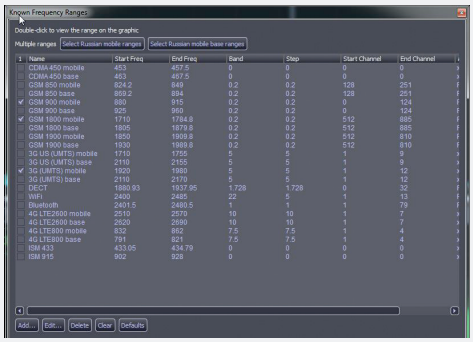
ST131.S«PIRANHA II», Multifunctional detection device

SIGNAL-T

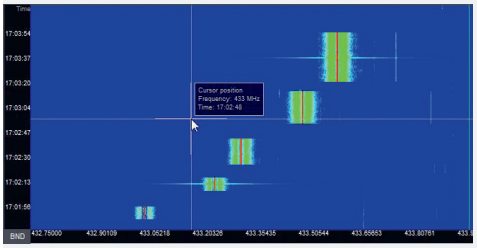
SOFTWARE

This software implemented the following:

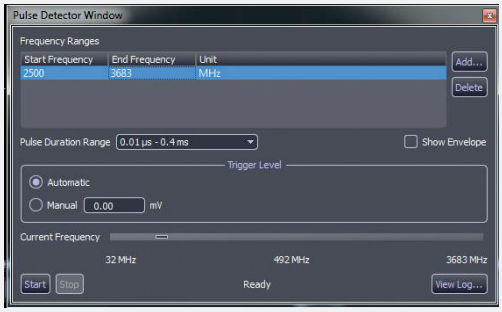
- Oscilloscope, spectral and vector analysis, "waterfall";
- Creation of signals database;
- MONITORING with expanded presets;
- Stream recording of signals to HDD of PC;
- Special detection algorithms.
- PC transfer of data, that has been stored in the ST131.S main unit.



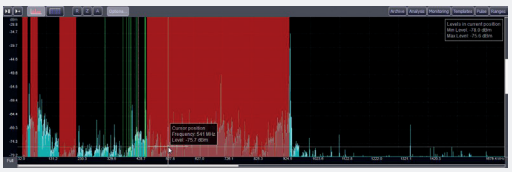
Data base of wireless standarts



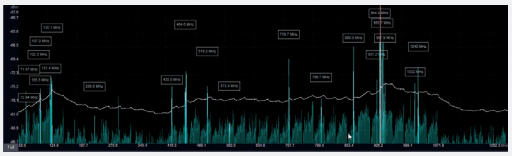
Waterfall mode

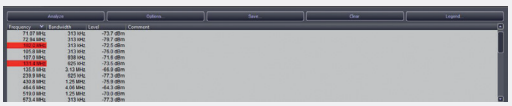


Detection of pulse signals



Using Templates





Automatic analysis and classification of signals

ST131.S«PIRANHA II», Multifunctional detection device

Basic set

1. Main unit
2. Power supply
3. Main unit's supporting device
4. Main unit's shoulder holder
5. USB cable
6. Li-pol akk. type 16650 (4 pcs)
7. USB flash drive with software
8. Technical description and operating manual

Additional set

"ST131.S.AWL" – wire line adapter+"RJ-45" cable +220V clips (2 units)+ "GROUND" wire+ Probes set + alligator clips+ battery12V MN21(2ps.)

"ST131.S.SHF" - SHF antenna-detector

"ST131.S.IR" - infrared sensor

"ST131.S.TEST" - testing device

"ST131.S.MF" - Magnetic field sensor

"ST131.S.UHF.A" - broadband UHF antenna

Telescopic antenna

«ST131.RAWL» - RF wire line adapter+«F-BNC»

"ST131.S.A" Acoustic sensor

Tripod

Headphones

ST131.S«PIRANHA II», Multifunctional detection device

SIGNAL-T

COMPONENTS

Main unit

Is the basic element of the devices

SPETIFICATIONS

DIGITAL SIGNAL PROCESSING MODULE	
Simultaneous processing frequency range, MHz	0.01-30
Resolution of ADC, bits	10, 14, and 16
Number of FFT points	32768 (with PC software) 512 (the ST131 main unit)
DDC filter bandwidth, MHz	0.0005-10 MHz
Demodulators	AM, FM, SSB
Detectors	RMS, average, peak-hold, quasi-peak
"CH1" INPUT	
Frequency range, KHz	0.01-125
Displayed noise level	
* FULL RANGE, dBm	Minus 110 (minus 140 for PC software)
"CH2" INPUT	
Frequency range, MHz	10.01-30
Displayed noise level	
*FULL RANGE, dBm	Minus 110 (minus 130 for PC software)
* 1 KHz bandwidth, dBm	Minus 150
"CH3" INPUT	
Frequency range, MHz	30 - 6000
Displayed noise level dBm	
*FULL RANGE, dBm	Minus 90 (minus 100 for PC software)
* 1 KHz bandwidth, dBm	Minus 110
Analysis speed, not less, GHz/sec	10
Input attenuation value, dB	0 - 30,with step 5
Frequency of test signal NON-LINEAR JUNCTION DETECTOR, KHz	150-220
Indication	3.5", 240x320, 262144 colors
Interface	USB 2.0
Supply current, A	0.4-0.6
Power supply	4 type 16650 batteries
Dimensions, mm	190x97x50

ST131.S«PIRANHA II», Multifunctional detection device

WIRE LINES ADAPTER «ST131.S.AWL»

ST131.S.AWL is a monoblock in which structurally united:

- Step-down transformer voltage converter assigned to operate in the frequency range from 0.01 to 30 MHz;
- Low frequency differential amplifier assigned for operation in the acoustic frequency range (0.3 - 15 KHz).
- Switching device controlled directly from the main unit and provides connection to the contact pairs of the RJ-45. Connection can be to the most common combinations of pairs as well as user-defined pair.
- Generator of nonlinear junction detector
- Offset voltage supply circuit designed to supply bias voltage (power supply) to the wire line in order to activate the special technical means connected to this line for secretly obtaining information

SPETIFICATIONS

DIGITAL SIGNAL PROCESSING MODULE

Frequency range 1, KHz	0.3-15
Displayed noise range, not worse, dBm	Minus 115 (minus 140 for PC software)
Input signal maximum level, dBm	20
Input amplifier gain, dB	14, 26, 38, 44, 50, AGC
Common mode rejection ratio (CMRR), not less, dB	60
Maximum allowed input voltage, V	250
Frequency range 2, MHz	0.01-30
Displayed noise level	
*FULL RANGE, dBm	Minus 90 (minus 120 for PC software)
*1 KHz bandwidth, dBm	Minus 125
Input signal maximum level, dBm	10
Maximum allowed input voltage, V	250
Values of bandwidth, MHz	10, 5, 2, 1, 0.5. 0.2, 0.1, 0.05, 0.02, 0.01, 0.005, 0.002, 0.001, 0.0005
Input amplifier gain, dB	Plus 5, minus 1, 7, 13, 19, 25, 31, 37, AGC
Power supply of offset voltage	MN21x2 12V battery
Offset voltage setting range, V	+/- 0.3-23V
Frequency of test signal non-linear junction detector, kHz	150-220
Dimensions (without cable), mm	113X62X29
length of cable, m	0.2

1.3.7 Magnetic field sensor ST131.S.MF

ST131.S.MF consists of a ferrite antenna and pre-amplifier.
ST131.S.MF operates in two modes:
«MAGNETOMETER"- directly as a magnetic field intensity sensor
"GRADIOMETER" - In this mode an influence of remote strong sources of magnetic field is reduced significantly as well as influence of other disturbing impacts (acoustic, vibro-acoustic, etc).

Frequency range (for passband ripple 4dB), Hz	30 – 30000
Threshold sensitivity, at 1000 Hz, not worse, A/m*Hz1/2	$2x10^{-6}$

SHF antenna-detector "ST131.S.SHF"

ST131.S.SHF consists of the structurally integrated log-periodic antenna and SHF detector-amplifier.

Frequency range, MHz	6000 - 18000
Directional pattern width, degree	60-90
Dimensions (without cable), mm	235X45X22

Infrared sensor "ST131.S.IR"

This sensor structurally consists of receiving photodiode and pre-amplifier. The front side of sensor has the screw-thread hole 1/4" used for connection of the special monopod or tripod.

Frequency range, nanometers	220-3200
Measuring range (1MHz), dB	-40/+10
Subcarrier frequency range, MHz	0.01-5
Spectral range, nm	770 – 1600 (550-1100)
Field of view, degree	10
Dimension, (without cable), mm	L=55, D=26

ST131.S«PIRANHA II», Multifunctional detection device

Acoustic sensor "ST131.S.A"

Designed to receive acoustic signals in the sound and ultrasonic frequency range.
Microphone and amplifier are structurally combined in this sensor.

RF wire line adapter «ST131.S.RAWL».

ST131.S.RAWL is a single monoblock with integrated circuit protection against high voltage up to 250V.

Frequency range, MHz	30 - 4000
Insertion loss, dB	1(500MHZ), 5(4000MHZ)
Maximum allowed input voltage, V	250
Dimension, mm	L=64, D=22

UHF antenna "ST131.S.UHF.A"

ST131.S.UHF.A is a passive broadband antenna.

Testing device "ST131.S.TEST"

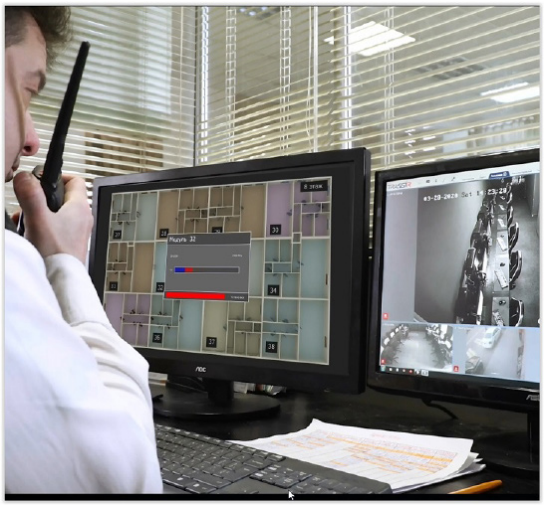
The "ST131.S.TEST" is intended to control operability of device ST131.S by testing all detection channels in the main unit as well as rest equipment (sensors, antennas, adapters, converters).
The "ST131.S.TEST" has six control signal sources corresponding to the ST131.S detection channels as well as non-linear element to check the non-linear junction detector.

ST154
RF Monitoring System

SIGNAL-T

PURPOSE

The main purpose of the system is the detection of unauthorized transmission of data in the area of surveillance.



These areas include::

- Meeting rooms and offices
- Exam rooms and testing facilities
- Prisons and correctional facilities
- Areas with limited use of cell phones, radios, etc.

KEY FEATURES

- Simultaneous monitoring from 1 to 128 local areas.
- No special training required.
- Many opportunities for selecting the configuration of the system.
- Data transmission over wired (ETHERNET) and wireless (WLAN) networks.
- 24/7 monitoring and the event log are provided
- The location finding mode for localization the source of transmission is available, when using multiple CMs or using special SEARCH MODULE
- Automatic setting of cellular bands using by **ST181 BASE STATIONS MONITORING DEVICE**

ST154 DETECTS

- Cell phones and modems of standards **2, 3, 4** and **5G**, wireless data transmission devices **WiFi**, **802.1a**, **b n**, **Bluetooth** and mini-cell **DECT**
- Radio transmitting devices in the range of 50-6000 MHz

ST154
RF Monitoring System

GENERAL DESCRIPTION

The main unit of the system is the control module (hereinafter **CM**) which performs the reception and analysis of signals.

Detection area of the **CM** depends on many factors and the estimated average value is 10 to 50 square meters.

In addition, there is the search module (SM) that ensures determination the exact location of the radio transmission device.

Technical specifications of the CM:

Frequency range	50-6000 MHz
Threshold sensitivity, dBm	
CDMA450, GSM900, SM1800, 4G, 3G	-80 -100
Maximum input level, dBm	-5
Interfaces USB, WLAN, ETHERNET	
Supply voltage, V	5
Consumption current, mA, not more than	800
Dimensions without antenna mm	109x60x27

DESCRIPTION OF THE CM

THERE ARE FOUR TYPES OF MODULES:

- **ST154.A – Standalone CM** Alarm indication carried out by sound and light alarms which are located on the CM. Pre-installation parameters are set via USB port.

  This type of **CM** is intended primarily for the control within the one room.

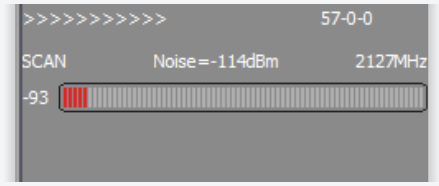
- **ST154.W = ST154.A+ transmitting via WLAN to the PC**

- **ST154.E - ST154.A+ transmitting via ETHERNET to the PC**

- **ST154.E+POE = ST154.A+ transmitting via ETHERNET with POE to the PC**

  This variants of **CM** are intended for cover more than one room in a multi-story building with alarm transmission on a computer.

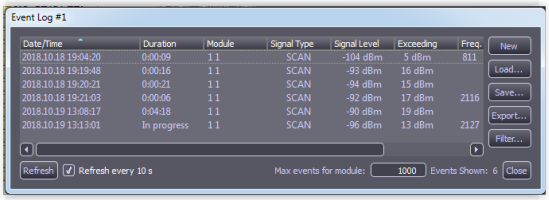
Software



Configuration of the CM can be performed both individually and for the whole system. Also there are many adjustable options.

Each CM is assigned its virtual image that allows to watch changes of the radio emission in the real-time mode.

The logging mode is always enabled and there are a lot of options of sorting events depending on criteria you need



Locating the source of the radio signal

For locating the source of the radio signal there are two ways:

- Processing data from three or more CM is available. Location of the RF device will be immediately displayed on the floor plan.

- Use the SEARCH MODULE. Information about the signal is transmitted to the SEARCH MODULE via the USB port. The search is based on the signal level indication on the screen of the SEARCH MODULE."

ST167 "BETTA" Search receiver

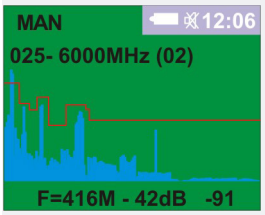
PURPOSE

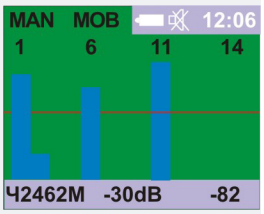
ST167 "BETTA" is intended for:

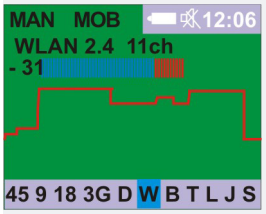
• detecting and locating of radio transmitting bugging devices in the TSCM survey

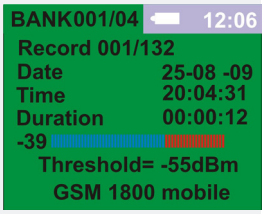
KEY FEATURES

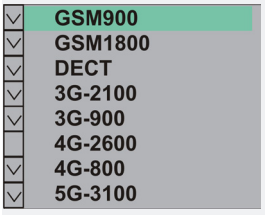
- Detect of analog and digital signals in the 25 - 6000 MHz frequency range
- Special algorithms for identification of CDMA 450, GSM, 2, 3, 4 and 5G, DECT, WLAN2.4, 5GHz and BLUETOOTH
- Frequency measurement of analog signals
- Sound control (AM and FM demodulation)
- 24 hour monitoring with the creation of a database of events. Work on schedule.
- Special mode Jammers detection, including GPS/GLONASS
- SMS detection special mode
- Separate indication of channels for 3G, 4G, DECT, WLAN 2.4 and 5GHz
- Special software "ST167 ANALYZER"
- Firmware update via internet
- Including firmwares with celluar 2, 3, 3 and 5G frequency bands by countryes and region
- Extremely small dimensions for this type of device

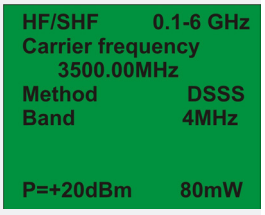


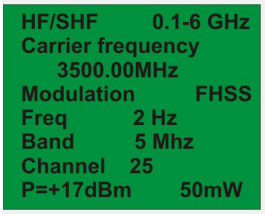


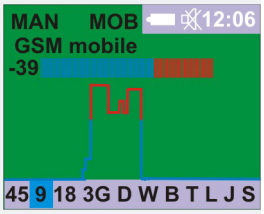












ST167 "BETTA" Search receiver

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SPECIFICATIONS

Frequency range, MHz	50-6000
Threshold sensitivity, dBm	-80 (1000MHz) -55 (5000MHz)
Passband, MHz	2, 5, 10, 15,20
Average dynamic range, dB	70
Frequency measurements accuracy, kHz	10
Power Supply	Li-Pol Battery 4.3V (2.2A/h)
Average current consumption, mA	500
Interface	USB2.0
Overall dimensions main unit, mm	90X54X21

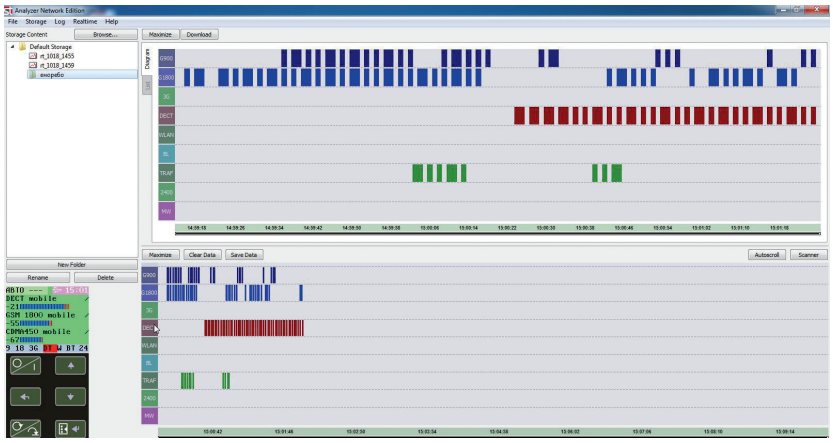
COMPLETE SET

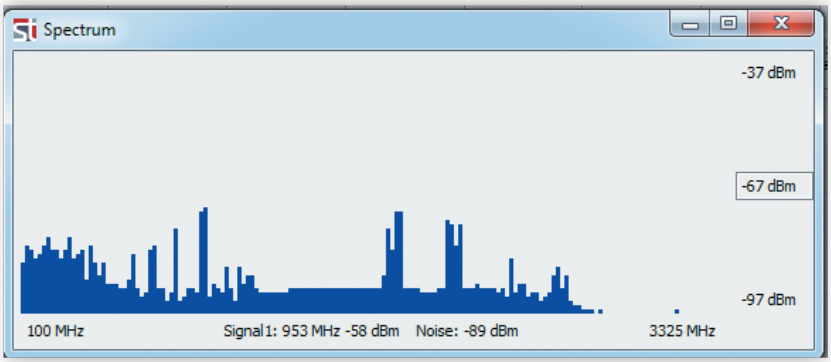
Main unit	1
RF antenna	1
USB cable	1
Power supply	1
USB flash drive	1
USB flash drive witch software and «Technical description and operating manual»	1

SPECIAL SOFTWARE «ST167 ANALYZER» allows:

Create a database of logged events

Operate the device directly from a computer.





ADDITIONAL FEATURES

Automatic setting of cellular bands using by **ST181 BASE STATIONS MONITORING DEVICE**

External devices control. Made by built-in relay with control circuit. Designed for additional indication devices connection and cellular jammers control («R» letter is added to the device name)

Vibrocall («V» letter is added to the device name)

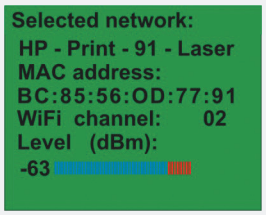
ST167W5
Search receiver with option of analyzing WiFi networks

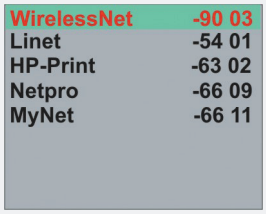
PURPOSE

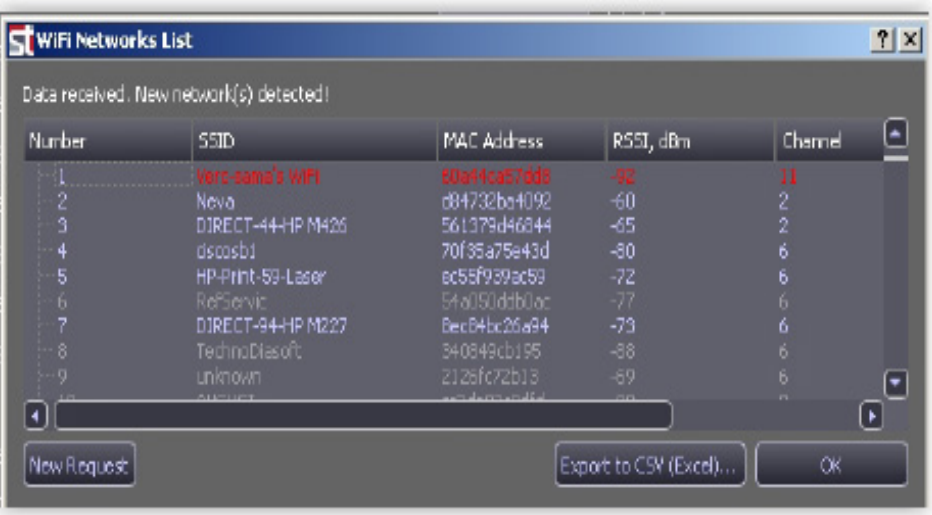
- **ST167WB is a modification of ST167 "Betta".**

ADDITIONAL FEATURES

- Displaying list of access points (WLAN), their names, MAC addresses, used channel and signal strength.







ST111
Proffesional RF detector

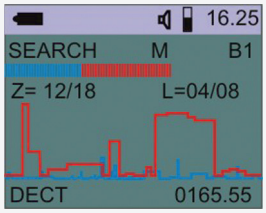
SIGNAL-T

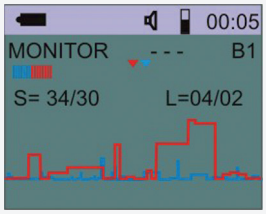
PURPOSE

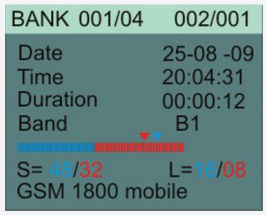
- **ST111 IS DESIGNED FOR DETECTING AND LOCATING OF RADIO TRANSMITTING BUGGING DEVICES, SUSH AS:**

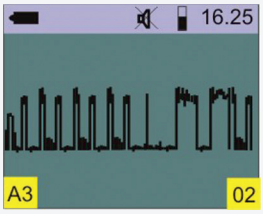
- Radiomicrophones, Including Burst transmitters, and devices with frequency hopping
- GPS TRACKER
- GSM bugs
- Wireless video cameras, stetoscopes
- Unauthorized used WLAN and DECT devices

Principle of operation of ST110 is based on broad band demodulation of electrical field.









KEY FEATURES

- Separate indication of analog and digital signals
- Displaying of identified signals of GSM (2G), DECT, WLAN (2.4GHz)
- Frequency meter
- Oscillograph
- Timing diagram
- Special software "ST111 ANALYZER"
- Firmware update via internet
- 24/7 monitoring
- Log of events

ST 111
Professional RF detector

SPECIFICATIONS

Frequency range 1, MHz Frequency range 2, MHz	50-2500 2000-7000
Threshold input sensitivity, dBm, less than	-75 (50 MHz) -70 (1500 MHz) -50 (2500 MHz)
Threshold sensitivity, W/cm^2, less than	2-10^{-10} (2500-7000 MHz)
Frequency range of frequency meter, MHz	50-2500
Sensitivity of frequency meter, dBm	-35 (50 MHz) -50 (1500 MHz) -20 (2500 MHz)
Inaccuracy of frequency measuring, %	0.005
Dynamic range of indication 1, dB	55
Dynamic range of indication 2, dB	30
Indication	color TFT display 169X128
Internal power supply	Li-pol acc. battery 3.6V
Consumption current, mA, less than	110
Dimension, mm	90x54x21
Weight, kg, less than	0.13
Gross weight, kg	0.25

COMPLETE SET

Main unit	1
HF antenna	1
USB cable	1
Charger/power supply	1
USB flash drive with software and «Technical description and operating manual»	1

SPECIAL «ST 111 ANALYZER» SOFTWARE is designed for:

— view real time graphs of the operation on ST 111;

— the ST 111 remote full control using PC;

— extended settings assignment for MONITORING mode;

— load and display textual and graphical information of the operation in MONITORING mode;

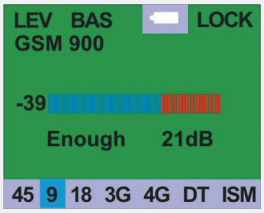
— firmware updating via internet.

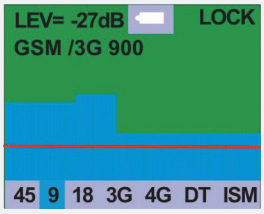
ST169
Tester of cellular and wireless data jammers

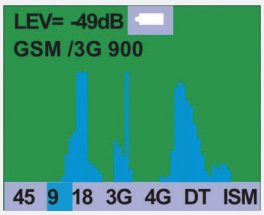
SIGNAL-T

PURPOSE

- **ST 169 is designed for estimating the emission level of jammers that suppress signals of CDMA-450, GSM, 3G, 4G, Bluetooth, DECT and WLAN data transmission standards.**
  - Definition of the real area of suppression
  - A check of conformity the frequency range of the jammer to the frequency range and channels of cellular and wireless data transmitters
  - Easy to use
  - Rapid results







OPERATION ALGORITHM

- Measurement, processing and displaying the emission level of base stations and jammers in numerical and graphical forms
- Displaying the result of the check in the form of an information line.

KEY FEATURES

- Selective reception of radio signals in the frequency ranges of selected standards.
- Comparison signals of the base stations and signal of jammer
- Selection of suppression ratio

ST169
Tester of cellular and wireless data jammers

SPECIFICATION

Frequency range, MHz	463-467.5 925-960 1800-1900, 2110 - 2170, 2400 – 2483.5 2600-2680 5150-5825
Threshold sensitivity, dB	925-960 -75 1800 - 1900 - 85 2110- 2170 -77 2400-2483.5 -66 5150-5825 -50
Average dynamic range, dB	65
Indication	OLED display 160x128
Power supply	Li-pol battery 2.2A/h
Interface	USB2.0
Overall dimensions of main unit, mm	90x54x21

COMPLETE SET

Main unit	1
HF antenna	1
USB cable	1
Charger/power supply	1
USB flash drive with the "Technical description and operating manual"	1

ST122 Multifunctional Advanced Simulator

SIGNAL-T

PURPOSE

- **ST122 is designed to imitate operation of almost all types of bugging devices, such as:**
  - RF microphone
  - Hardwire Carrier current
  - Optical
  - Ultrasonic

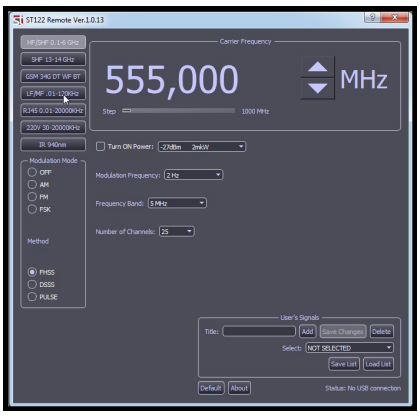
It also imitates electromagnetic interference of electronic devices (TEMPEST), such as solid state dictaphones and cell phones

PLACES OF ACTIVITY

- Training of TSCM personnel
- Testing functionality of the TSCM equipment

KEY FEATURES

- Complete signal generator in a wide frequency range: 0.01-20MHz and 100-6000MHz
- Self-powered
- Small dimensions
- Robust design
- Special software "ST122.Remote"
- Firmware update via internet



GSM 3G DECT WF BT
Carrier frequency
898.000MHz
Standard GSM

P=+15dBm 32mW

LF/MF .01-120kHz
Carrier frequency
001000 Hz
Modulation PWM
Freq 10Hz
Ratio 1:5

Power 100%

HF/SHF 0.1-6 GHz
Carrier frequency
3500.00MHz
Method PULSE
ON: 00.1000s
OFF: 00:00.9000s

P=+20dBm 80mW

SETTINGS..
RF/UHF 0.1 - 6GHz
GSM 3G DCT WF BT
LF/MF .01 - 120кHz
RJ45 .01 - 20000kHz
220V 30 - 20000kHz
IR 940nM
Memorize data

ST122 Multifunctional Advanced Simulator

CONTENTS

TECHNICAL SPECIFICATIONS

"RF/UHF" socket	
Frequency range, MHz	100-6000
Frequency-tuning step, kHz	10, 100, 1000, 10000, 100000
Signal level, dBm	-27 – +20*
Stray harmonics, dBm	
100-200MHz	-15
200-700, 1100-1500MHz	-45
800-1000, 1600-6000MHz	-30
Signal	Sinusoidal, DSSS, FHSS, PULSE
Modulation	AM, FM, FSK
Data transmission standards imitation	GSM, 3G, 4G, DECT, WLAN, BLUETOOTH
Modulation frequency, kHz	0.5, 1, 5, 15
depth, %	70
FM Deviation, kHz	30 100, 300, 600
Nonlinear distortion of modulating signal, no more than, %	15
Bandwidth of Hopping, MHz	1, 6, 10, 20, 50, 100
Number of Hopping Channels	25, 50, 125, 250
FHSS frequency of hopping, Hz	1, 2, 4, 8
DSSS bandwidth, MHz	0.3, 0,5, 1, 2, 4
PULSE Signal transmission time, sec	0.0001 - 99
PULSE Signal accumulation time, sec	0.01 - 5999
*Variation range depends on signal frequency and selected standard	
"SHF emitter"	
Frequency range, GHz	14-14.5
Modulation	PWM
"RJ-45" socket	
Frequency range, kHz	0.01-20000
Maximum signal amplitude, V	3.5
Modulation	AM, FM, PWM
Modulation frequency, kHz	0.5, 1, 1, 5, 15
depth, %	15
FM Deviation, kHz	5, 20, 100, 300
The frequency of the PWM signal, Hz	1, 10, 40, 100
Duty cycle	1, 5, 10
"220V" socket	
Frequency range, kHz	30-20000
Maximum signal amplitude, V	3.5
Maximum input voltage, V	380
Modulation	FM, DSSS
Modulation frequency, kHz	0.5, 1, 1, 5, 15
Distortion, kHz	5, 20, 100, 300
PRF, Hz	1, 10, 40, 100
Duty cycle	1, 5, 10
"IR" emitter	
Wave length, nm	940
Subcarrier frequency range, kHz	0.01- 5000
Stray harmonics, dBm	30

ST122 Multifunctional Advanced Simulator

SIGNAL-T

TECHNICAL SPECIFICATIONS

Output power, mW	0.5
Modulation	AM, FM, DSSS
Modulation frequency, kHz	0.5, 1, 5, 10, 15
depth, %	15
Distortion, kHz	5, 20, 100, 300
PRF, Hz	1, 10, 40 100
Duty cycle	1, 5, 10
"LF" socket	
Socket	Symmetrical
Frequency range, kHz	0.01-120
Maximum output power, W	0.7 (power supply), 0.3 (internal battery)
Power levels, %	7.5, 14, 20, 32, 50, 65, 80, 100
Impedance, Ω	8
Frequency-tuning step, kHz	1, 10, 100, 1000
Octave filters frequency values, Hz	32, 63, 125, 250, 500, 1000, 2000, 4000, 6000, 16000, 31500 63000
Third octave filters frequency values, Hz	32, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 16000, 20000, 25000, 31500, 40000, 50000, 63000, 80000, 100000,
Nonlinear distortion, no more than, %	1
Modulation	AM, FM, DSSS
Modulation frequency, kHz	0.5, 1, 1, 5, 15
depth, %	15
Distortion, kHz	5, 20, 100, 300
PRF, Hz	1, 20
Duty cycle	1, 5, 10
Magnetic field emitter «MF»	
Equivalent magnetic moment of magnetic field source with frequency 1kHz, A*m2	
Power levels	
100%	2*10-4
7.5%	2*10-5
Interface	USB
Power	
Power supply	Li-Polymer battery, 1.8A/h or 220V power supply
Max current consumption without charge, mA	800
Main module dimensions, mm	110X60X28

ST 171 Jammer detector

PURPOSE

ST171 IS DESIGNED FOR DETECTION OF:

- Cellular jammers (blockers)
- GPS/GLONASS receiver jammers (blockers)
- Ultrasonic and electromagnetic jammers of sound recording devices, dictaphones etc.

ADDITIONAL FEATURES:

- Detection logging
- Environment snapshot at detection moment
- Location fixation at detection moment
- Base stations signals spectrogram indication in 900 and 1800MHz, sonic and ultrasonic ranges.

KEY FEATURES

- Control and indication of work results is done by using of Android device – smartphone or tablet. Data transfer between smartphone and RM is done using BLUETOOTH connection. Alarm signal – vibrating and display indication.
- Special knowledge for device operation is not required. It is enough to select needed working mode and and further installation will be done automatically.
- For advanced users additional settings are provided.
- Fast detection time: 0.1-1.5sec
- Detection jammer in the car at speeds up to 100km/h
- Detection range of low power portable cellular networks blockers on open space is about 10 meters, ultrasonic Dictaphone blockers – about 5 meters.

SPECIFICATION

Frequency range, MHz	901-907, 925-975, 1570-1580, 1795-1820
Dynamic range, dB	65
Interface	Bluetooth, USB
Internal power source	Li-ion battery 3.6V
Current consumption, mA, no more than	450
Degree of protection	IP54
Temperature range,	-30/+30
Dimensions, mm	83X52x15
Weight, kg	0.06

ST 171
Jammer detector

SIGNAL-T

Field of use

«OFFICE»

- Visit to the premises, where, imperceptibly for others, it is necessary to control presence of cellular jammers or Dictaphone blockers.

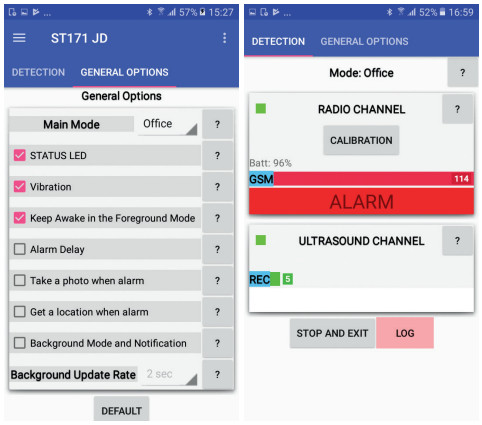
«CAR»

- Stationary control of cars for cellular blockers or GPS receivers presence on entry/exit of the parking area. In this case RM is installed in security booth or any other place nearby the barrier.

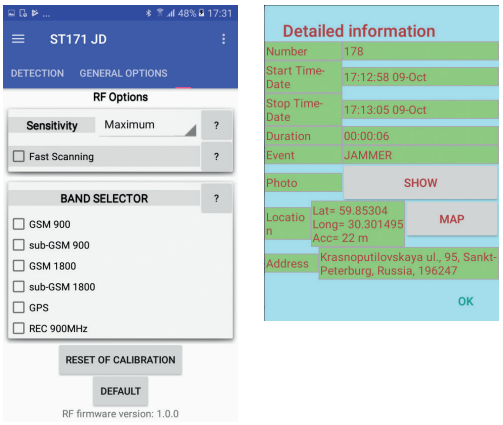
- Tationary control for cellular blockers or GPS receivers in cars moving along a highway, street etc.

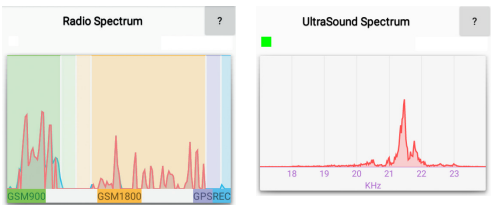
- Search of cellular blockers or GPS receivers, installed in stationary car, for example in stolen one. Car can be as inside the garage, as on open area.

BASIC WINDOWS



ADDITIONAL WINDOWS
FOR MANUAL CONFIGURATION





COMPLETE SET

Receiving module ST171R
Charger
«USB micro – USB» cable
USB flash drive

ST 181
Base stations monitoring device

SIGNAL-T

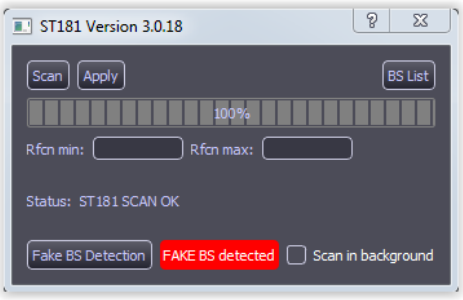
ST181 provides analysis of 2G, 3G and 4G networks of all mobile operators using the "ST181 Analyzer" windows software

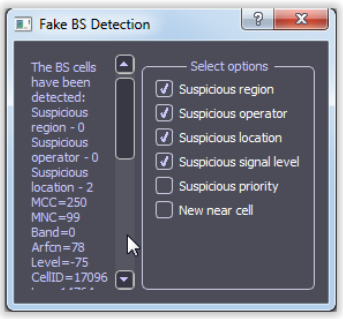
List of detected base stations

Number	Band	Operator	RFCN	Base Frequency, MHz	Mobile Frequency, MHz	Signal Level,dBm	Cell ID	Lac (Tac)
72	4G	Tele2	1275	1812.5	1717.5	-62	199682317	19686
30	2G	Beeline	644	1831.6	1736.6	-76	16322	14764
50	2G	MTS	660	1834.8	1739.8	-89	2884	260
48	2G	MTS	680	1838.8	1743.8	-88	61225	260
67	4G	Megafon	1596	1844.6	1749.6	-61	202075354	7814
68	4G	Yota	1596	1844.6	1749.6	-61	202075354	7814
69	4G	Megafon	1596	1844.6	1749.6	-63	199696840	7814
70	4G	Yota	1596	1844.6	1749.6	-63	199696840	7814
44	2G	MTS	742	1851.2	1756.2	-87	16975	260
71	4G	MTS	1721	1857.1	1762.1	-63	51567109	17838
16	2G	Megafon	800	1862.8	1767.8	-75	2127	7839
26	2G	Megafon	805	1863.8	1768.8	-73	991	7837
2	2G	Megafon	807	1864.2	1769.2	-59	16002	7839
51	2G	Megafon	814	1865.6	1770.6	-91	22182	7837
37	2G	Megafon	823	1867.4	1772.4	-80	9025	7837
46	2G	Beeline	850	1872.8	1777.8	-87	17823	14782
31	2G	Beeline	852	1873.2	1778.2	-77	17821	14782

Fake BS detection

Selectable detection conditions and alarm indication

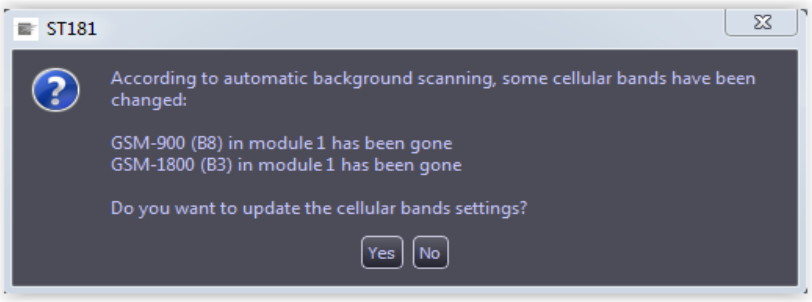




Using of ST181 together with ST154 and ST167

Automatic installation bands of cellular. Only real working cellular bands in specific area are being analyzed;

Constant «Background» monitoring gives ability to operative new frequency bands detection and adapt them to changing radio environment.



Connection to a PC via USB

LIST OF EQUIPMENT

1. Radio receiver device (ST181R)
2. UHF antenna
3. USB cable
4. Charger/power supply
5. USB flash drive with the software and "Technical description and operating manual"

SPECIFICATION

Frequency range, MHz	B8 (2G 900), B3 (2G 1800), B2, B8 (3G 900), B1, B3 (4G1800), B7, B8 (4G 900), B20 (800)
Interface	USB
Dimensions ST181.R, mm	83 52x15