

# Polarity tester BugHunter

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This manual introduces you to structure, rules of operation (functioning, maintenance, reparation, storage and transportation) of Polarity Tester “BugHunter™ Mini MN-01” (hereinafter - the device). Before using your device, please read this user’s guide.

Following the rules, restrictions and guidelines will prolong the device life and will help to use it most effectively.

## 1. Device description and operation

### 1.1. Device purpose

1.1.1 Polarity tester “BugHunter™ Mini MN-01” is designed for detecting and monitoring of transmitters in the near field (bugs, wireless microphones, hidden wireless cameras, radios, cell phones signal killer), as well as working cell phones corresponding standards GSM, DAMPS, AMPS, DECT.

1.1.2. Operational environment:

- Ambient temperature..... - 40 to + 55;
- Relative humidity at 25 ° C,% ..... 98;
- Atmospheric pressure of 66.6 kPa to 106.6 kPa (500 mmHg to 800 mmHg).

### 1.2. Technical features

1.2.1 Device appearance can be seen on Picture 1



Picture 1 – appearance of the device

- 1.2.2 Overall dimensions, mm, not more than ... .. 75 x 41 x24
- 1.2.3 Device Weight with batteries, kg, not more than .. .... 0.05
- 1.2.4 DC power voltage (lithium disk battery type CR2032)..... 3.0
- 1.2.5 Maximum current consumption, mA, not more than..... 30
- 1.2.6 Frequency range, MHz ... .. 50-3000
- 1.2.7 Sensitivity, mV / m, not less than ... .. 50
- 1.2.8 Dynamic range, dB, not less than ... .. 45
- 1.2.9 Range of detection in passive mode , m, not less than:
  - Transmitter power of 5 mW ... .. 5;
  - Cell Phone ... .. 50
- 1.2.10. Device functioning modes:
  - “Search” mode
  - “Feedback” mode

### 1.3. Device parts

1.3.1. Device parts and package contents can be seen in Table 1

Table 1

No	Item name	Quantity	Notes
1	Polarity tester BugHunter™ Mini MN-01 INTK. 411153.001	1	
2	Lithium disk battery type CR2032	1	Preinstalled in the device body ( <i>diameter 20 mm</i> )
4	Individual package	1	
5	Operating manual INTK. 411153.001 RE	1	

1.3.2. The device consists of a shockproof ABS plastic body and preinstalled:

- Receiving antenna;
- Start, stop, mode selection button;
- Power LED, radiation power scale.

Main parts location can be seen on Picture 2.



## 1.4. Components and functioning

1.4.1. The device is based on a microcontroller with preinstalled software.

1.4.2 Device special features are:

- Entire frequency range cover, allows "bugs" detection from 50 to 3000 MHz;
- Automatic adjustment for background radiation levels;
- A wide range of operating temperatures;
- Two functioning modes - "Search" and "Feedback";
- An additional external antenna;

1.4.3 Power supply from lithium disk battery type CR2032

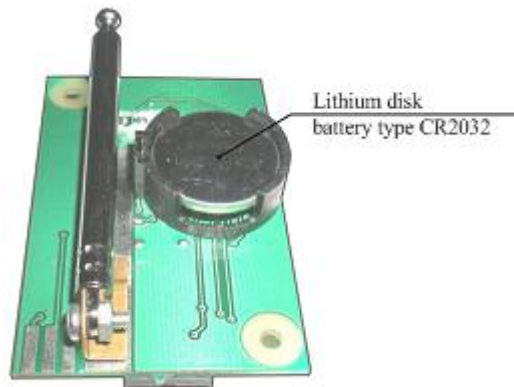
### WARNING!

The device allows to determine low battery power. If the voltage is less than nominal, the device flashes 3 times with central red LED lights, makes a beep sound and then turns off.

To replace the batteries need to:

- Dismantle the device (two screws on the back of the case);
- Remove the controller board (while removing, the antenna should be folded);
- Remove the battery from its holder and replace it with a new one;
- Assemble the product in reverse order.

Battery location in its holder is shown on Picture 3.



Picture 3 – battery location

**WARNING!** Do not allow the improper battery installation, in this case, the device will not function till the element is installed correctly.

## 2. Intended use

### 2.1. Operating limitations

2.1.1 If using the device in "SEARCH" mode try to disable radio transmitters (Wi-Fi, cell phone in active mode), household and other electrical appliances that can be found. This simplifies a lot the

**search by eliminating unnecessary interference, and allows the device to operate with more sensitivity.**

## **2.2. Intended use**

2.2.1 Switch on the device by pressing and holding the button for 2 seconds (Picture 2). When you turn on the device it performs a self-test, a beep sounds, all LEDs light up, then the left LED lights up and the device starts testing the electromagnetic field level.

2.2.2 The number and color of displayed LEDs correspond to the radiation strength. If only one left green LED is on, it shows zero radiation level, the glow of all three red LEDs indicate the maximum radiation.

2.2.3 Procedures for using the device in "SEARCH" mode are:

- Turn on the device, it will automatically adjust sensitivity;
- Start monitoring round the room, hold the product at a distance of 0.3-0.5 m from the surface. If the scale displays radiation increase (increasing number of red LEDs), try, moving the tester, identify a place with a clear emission peak and inspect it for "bugs."
- If the room has an increased electromagnetic background, you can manually reduce the device sensitivity, what requires removing part of antenna from the body of the device.

2.2.4 Procedures for using the device in "Feedback Search" mode are:

- Turn on the device (see 2.2.3);
- Turn on "feedback" by briefly pressing the button on the body;
- Start searching for "bugs" (see Section 2.2.3). If the dynamics produces a characteristic whistle, it means a nearby operating wireless microphone ("bug").

2.2.5 If during searching, all (or part) of LEDs will light up briefly and after disappear, it indicates a possible operating pulse signal transmitter.

2.2.6 Turn off the device by pressing and holding the button on the case for at least 2 seconds.

## **3. Maintenance**

3.1 Maintenance consists in replacing a failed battery, as well as cleaning the outside surface from dirt.

3.2. Possible troubleshooting and their fixing methods are given in Table 2.

Table 2

<b>Trouble shooting description</b>	<b>Possible reasons</b>	<b>Fixing methods</b>
When the device turns on the radiation scale is not showing anything, no beep sound	Run-down battery	Change battery
	Неисправно изделие	Send device to be repaired.

## **4. Package, storing and transportation certificates**

In accordance to package contents in Table 1, each device is packed into the individual corrugated cardboard box.

Moving of the item in the package is not in allowed.

Packed products are fit into the shipping container - a box made of corrugated cardboard GOST 22637.

Packaged goods can be delivered by road or by rail in boxcars or containers, also in pressurized module by

air.

During transportation, the items must be protected from direct precipitations and solar radiation.

Terms of transportation:

- Ambient temperature from -50 to 50 °C;
- Relative humidity up to 95% at 25 °C;
- Atmospheric pressure from 84 to 107 kPa (630 to 800 mm Hg. Art.)
- Peak shock acceleration up to 147 m/s<sup>2</sup> (15 g) during shock acceleration duration of 10-15 ms.

The requirements of warning labels should be strictly complied when loading and delivering