Underground Metal Detector Instruction Manual

Version: SZ924-0

Introduction

The metal detector is a new improved product and application of foreign advanced technology and imported components. With the old product comparison, the instrument to lean in the design, the utility model has the advantages of probing depth, accurate positioning, strong resolution, simple operation etc..

The metal detector is used to detect and identify hidden buried in the ground or other medium within the metal, which in addition to the application for military use, but also widely used in:

*Customs and security checks
*The police department detective searched.
*Metal foreign body detection of raw materials, fuel, food.
*Metal foreign body check mail and package.
*Detection of underground pipeline, the line.
*Archaeology, exploration.
*Found buried treasures of gold and silver and metal artifacts.
*The acquisition of scrap metal industry.

Because the soil is composed of a mixture of various minerals and become, in the use of the old metal detector is, when the probe and the distance of the ground changes, instrument signal change, when the probe ground surfaces, or near the mound, stones, bricks and instrument can send signals, this phenomenon is called "mineralization reaction".

The stratigraphic structure complex, "mineralization reaction" is very strong, the signal caused it to cover the metal target signal, the user is difficult to judge the signal is issued by the metal target signal or "mineralization reaction" signal. Improved metal detector adopts advanced balance circuit design, can eliminate most "mineralization reaction" influence, only in the detection of the metal signal, thus greatly improving the detection depth and accuracy.

1. Specification

Max. Detection depth	2.5 M
Masterfrequency	3.68 MHz
Signal frequency	7.200 KHz
Power supply	7.4V(lithium battery)
Charge voltage	DC 8.4 V
Power rating	≤1.0W

2.Assembly diagram

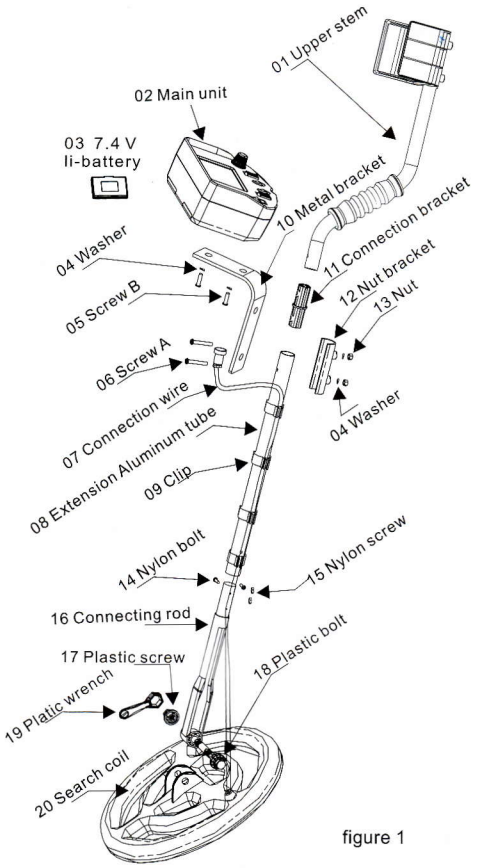

figure 1

3. Parts and assembly diagram

<01>Main unit*1PCS <02>Search coil*1pcs
<03>Upper stem*1PCS <04> 7.4 V li-battery*1PCS
<05> Screw (M5.0*33PM)*1PCS
<06> Clip*3PCS <07> Adapter*1PCS
<08> extension Aluminum tube*1pcs
<09> Plastic wrench*1PCS <10> Plastic nut*1PCS
<11> Plastic screw *2PCS <12> Nylon screw*1PCS
<13> Nylon bolt*1PCS <14> connecting rod*1PCS
<15> Earphone*1PCS <16>Manual*1PCS

If any parts miss before purchase, please consult your dealer.

4. Features

① Reset ② Power ON / OFF
③ Sensitivity Adjust ④ Mode
⑤ Recognition ⑥ LCD
⑦ Light Switch ⑧ Earphone jack
⑨ Charging port ⑩ Light

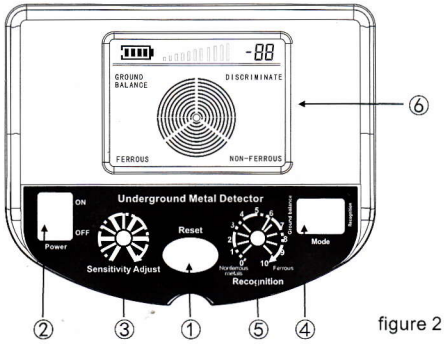

figure 2

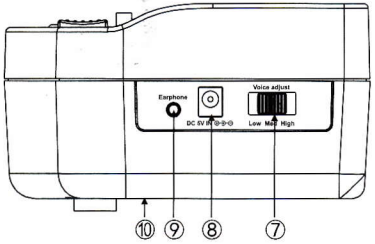

figure 3

5. Instrument control key description

(1) Button

In the instrument control has a button panel under the center, its role is very important, the instrument in the adjustment, operation process, often have to press and release the button. By pressing, push the button, memory circuit of the instrument will automatically record the adjusted state. If you forget to press, push the button, will affect the detection sensitivity.

(2) Power switch

The role of power supply for opening and closing the product power supply.

(3) Tuning Adjust

"Critical" state.

The tuner is called "critical" sound; the tuner by left clockwise rotated slowly, sound gradually from scratch, from small to large; instrument used in detection, should be transferred to a faint "buzz" sound, can barely hear it, this is "critical" sound; only to the faint sound when the instrument, has the highest sensitivity, if the "critical sound" is too big or no voice, the sensitivity will be reduced.

Before the "critical" sound, must press the button and then releasing, otherwise no voice; if in the detection process, "critical" sound gradually increasing or decreasing disappeared, according to push the button to restore the "critical sound" detection.

Equipment after use, please turn off the power switch.

(4) Operating Switch

Operating mode switch is divided into two grades, namely: to balance the files and the identification of document; to switch to balance the file, the instrument will respond to all metals, and can eliminate the "mineralization reaction.". If the switch to the identification of document, the instrument can distinguish different kinds of metal.

(5) Work Adjustment

Work with operation mode switch knob is used, it is marked with scales around 0-10. In the balance operation, through the adjusting knob can exclude "mineralization reaction"; in the recognition mode of operation, use it to distinguish different kinds of metal.

(6) Sensitivity indication

In the instrument control panel is provided with a five level detection central indicator light, when the instrument to detect metallic or resolution of metal type, according to the signal strength detection indicator increases gradually, the stronger the signal, the more increasing series.

(7) Power / low power indication light

The switch is arranged beside the power indicator light in the instrument power supply, when the power is turned, the indicating lamp is bright red light; when the battery voltage, the indicator light turns dark, prompting the user to charge.

(8) Lighting switch

Lighting switch is arranged in the host side, when the switch is opened, at the bottom of the host machine lights lit, so in the dark or night use detector.

(9) The earphone jack

Detector equipped with ear phone, when the plug in ear phone, speakers sound interrupted, the user can hear the sound from the ear phone, in order to operate in a noisy environment or at night.

(10) The charging jack

Charging jack is arranged on the host side, for charging the lithium battery.

6.Operations

The operation is same as sapper detect landmine. When detect, keep 10-15cm from the floor and scanning in the horizontal level to avoid lowering the actual detect depth.

figure 4

6.1Ground balance calibration:
Auto calibration:
The auto calibration is just to turn the unit on.
Calibrate by this method, after the unit turned on, a group of red light will keep blinking, after that, the calibration finished.
6. 1.1.Balance mode
This method can eliminate the influence of the earth "mineralization reaction", and has better penetrability; therefore, whether indoor or outdoor work, have preferred this way; when the exploration of underground metal objects exist, species and identification of document to identify metal. In the balance of operating mode, as long as the probe is moved to the top of the target metal, the instrument will make a continuous sound, any type of metal will make the sound increases, the instrument detection indicator light will gradually increasing.
The operation procedure is as follows:
1) operation mode switch to a more balanced.
2) raise the probe 70-80 mm off the ground.
3) the power switch is turned on, press the button and release, clockwise until the "critical sound tuner".
4)the probe is close to the ground, 10-15 cm from the ground, if the "critical sound" increases, lift the probe, to press the reset button and then loosen the adjustment knob counterclockwise, work left a little rotation, and then close to the ground and try again, if the sound is still increasing, according to the above procedure to work adjustment knob to rotate left a some try, after several adjustments, until the probe to lift up and put down the "critical" sound without change, to balance the fine; instrument after this adjustment, the earth's "mineralization reaction" basically be excluded, probe moving freely on the ground will not change the "critical" sound signal before the issue, only to detect metallic target.
5) if the probe near the ground in a low voice, his probe, press the button and release, will work adjustment knob clockwise rotate right, then close to interview a try, if the sound is still small, and then again, until the lift up and put down the probe sound the same.
6) Note: before each of the above adjustments, to press the button and release.
7) according to the regulation, we can slowly moving the probe along the ground, in the process of detection instrument should always keep the "buzzing" "critical" sound, if sound slowly increases or decreases, can press, put the button to make the "critical" sound returned to normal; the metal in the detection, will instrument issue a big sound, detecting the indicator will light gradually increasing.

6.1.2 identification
This method can distinguish the non-ferrous metal (gold, silver, copper) and black metal (magnetic metal, such as steel, iron, etc.), can also choose and do not need metal target need according to the sound, indicating; the identification mode doesn't have the function, can not be ruled out because the influence caused by soil structure "mineralization reaction", which requires strictly keep the distance with the ground probe unchanged, along the ground slowly moving in parallel.
The operation procedure is as follows:
1) operating mode switch to the identification of document.
2) turn on the power switch, press the button and release, clockwise until the "critical sound tuner".
3) adjusted according to the specific circumstances of "work regulation" knob to exclude those who do not need to target; such as nail many local detection in a scrap, everywhere is the signal sent to the nail, exploration work is not convenient; in this case, you could put a nail on the ground, above let the probe nails, if the instrument sounds great, just press the button and release, will "work regulation" knob counterclockwise rotation to the left a little, and then try again, if the sound is reduced, the same move probe, press the button and release, will "work regulation" clockwise to the right a little rotation, Then the probe moved to the nails to try again, have been transferred to sound the same; so far, well after the transfer, the underground iron nails and black metal than iron small will not make the instrument's sound increase, non-ferrous metal and ferrous metal than iron nails big will make the instrument issued by a large noise.
4) the adjustment knob to the scale below 2, a larger volume of nonferrous metal to make the sound increases, a larger volume of black metal sound reduction; work adjustment knob to the scale of more than 7, a larger volume of nonferrous metal to make the sound is reduced, a larger volume of black metal sound. If the detected target is a sheet of black metal, it will be the emergence of a particular phenomenon: in the probe shift edge near it, it should be the same as the reaction of ferrous metal, but when the probe is at the plate center, it was just like the non-ferrous metal.

6.1.3 instances
Above introduces two methods in actual detection instrument, when users want to use the instrument according to the specific situation. For example, search for buried deep in the remains of an old house, since the underground buried metal debris all kinds of discarded as nails, wire, the old lock, iron pieces and so on, these things will make the large signal, In this case, should first of all the metal furniture in the house to move out, and then use the balance gear proved that metal debris and removed, carefully eliminated, then put in shallow soil layer metal are dug up, to deep site search. Exploration work is a meticulous and painstaking work, it requires the operator to have patience, confidence and perseverance; any detector could not be metal objects underground display to be crystal clear, it can only be roughly indicates the location of the target, if we could find the necessary things accurately, but also requires the user to have the rich experience, according to the instrument response is carefully analyzed, in order to make the right judgment.

7. the prospecting method for detecting
The use of this detector can detect is not buried deep mineral deposits, including native gold, gold, and other various rich sedimentary sand. Detection of natural gold nuggets want to look for the metal coins, with balance; most gold under a higher degree of mineralization in the rocks, so it must be carefully adjusted to balance. In the ore, gold with extremely broken forms and blends in with the sands, sediment and heavy metal ore often has a large number of signals and black metal, caused by the mixture of the

same, but the reaction than the pure metal is relatively weak, and generally sound area relatively wide.

The detector can also block screening work, the work, the user does not need to handheld detectors, but the instrument fixed in a non-metallic support, call up the "critical" sound, then the ore a piece of land near the probe, to determine the content according to the voice of the size; should remember: every finish a sample according to put a button; screening assay technology the metal content of gold and the determination of leaving the old mine tailings is very useful, some people often use the visible surface mining gold ore left, the rest of the ore right away; in fact, be throw away a part of the containing gold ore.
For copper, iron, tin, lead and other metals, its composition and grade level, the models are different, users can use a standard ore to do test, to see it on the instrument to reflect, in order to determine the difference between the ore and ore.

8.charging that

When the instrument is the power indicator light color dark or not bright, must be timely charging.

1) first close the instrument power, a charging jack plug charger for the insertion of the instrument.
2) connect the charger to the commercial power (100-240V 50/60Hz) sockets; the charging indicator light red, charger charging starts to instrument.
3) when the charging indicator light from red to green, said that the battery is full, will remove the charger.

9. The matters needing attention:

(1) if the instrument is not working properly, sound can't be decreased after increasing, the battery power shortage, should be timely charging.
(2) don't press the button on the metal above, should press the button in the absence of metal surface, can not hold the button does not discharge detection.
(3) if the instrument can't keep the "critical" sound, indicating instrument failure, should be sent to the factory for repairs.

Warning

Any metal detector can detect underground cable, metal pipe and some explosive objects, in order to personal safety, Please observe the following points:
1) do not may be buried cable or pipeline local detection.
2) don't touch any possible electric cable.
3) don't touch any underground pipeline, especially the pipeline with combustible gas or liquid.
4) mining underground objects to maintain the necessary caution, especially in understanding of underground status area.
5) abide by the relevant laws, rules and regulations.
6) do not open the host shell, the instrument must be handled with care.
7) don't be positive and negative poles of a battery short circuit, do not put the battery into the fire, otherwise it may explode.

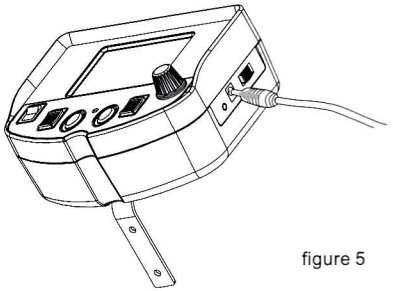

figure 5

10.Battery installation:

Push the battery door netherward by pressing anti-slip groove on the bottom of battery door. Install 1* 7.4V li-battery to battery compartment , then, close the battery door. See figure 6.

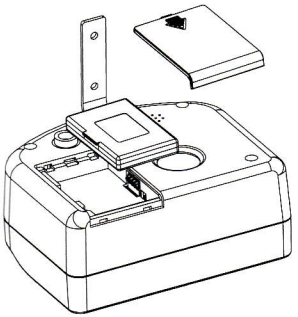

figure 6

IntelliSafe CE