

# Seben Tiefensonde Metal Detector



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## INTRODUCTION

Seben Extreme Metal Detector is designed by advanced international technique, and its made of high quality component It is quite popular for its excellent features, good detection depth, strong pinpoint, great discernment and easy operation.

It is mainly used to detect and distiguish metal buried in the earth

- Checking metal in material fuel , foods , etc ;
- Checking metal in post package , baggage etc;
- Detecting underground pipe ;
- Searching for buried gold silver jewelry in archeology and mining ,etc.

## CONTROL BUTTON

### — Zeroing Button

The button under viewmeter is called "Zeroing Button". We often need to press and release it during tuning and working process. By pressing and releaseing it , detector's memory circuit would automatically record work state . Forgetting to press and release zeroing button would affect detection depth and normal work.

### 二 Operation Mode Switch

#### 1. Power On/Off Switch

Turn it On,LED is light turn it off after finishing detection.

#### 2. Operation Mode Switch

There are two modes: One is Ground Balance Mode, the other is Discrimination Mode.

**Ground balance mode**, detector gives sound signal and be

able to eliminate mineralization reaction

In **discrimination mode**, detector is able to distinguish different kinds of metal.

### 三 Tune Turn Button

#### a) "Critical Sound" Adjuster

It's function is tuning critical sound: turn it clockwise from left side, signal sound rise little by little, when sound is just heard,it's called "critical sound" In this position, detector has the highest sensitivity. If "critical sound" is too loud or is not being heard, sensitivity is lower.

Before tuning it, it is necessary to press zeroing button irst, and release button after finishing tuning critical sound. During detection, if critical sound is rising, going down , or disappearing, press zeroing button until critical sound is back again.

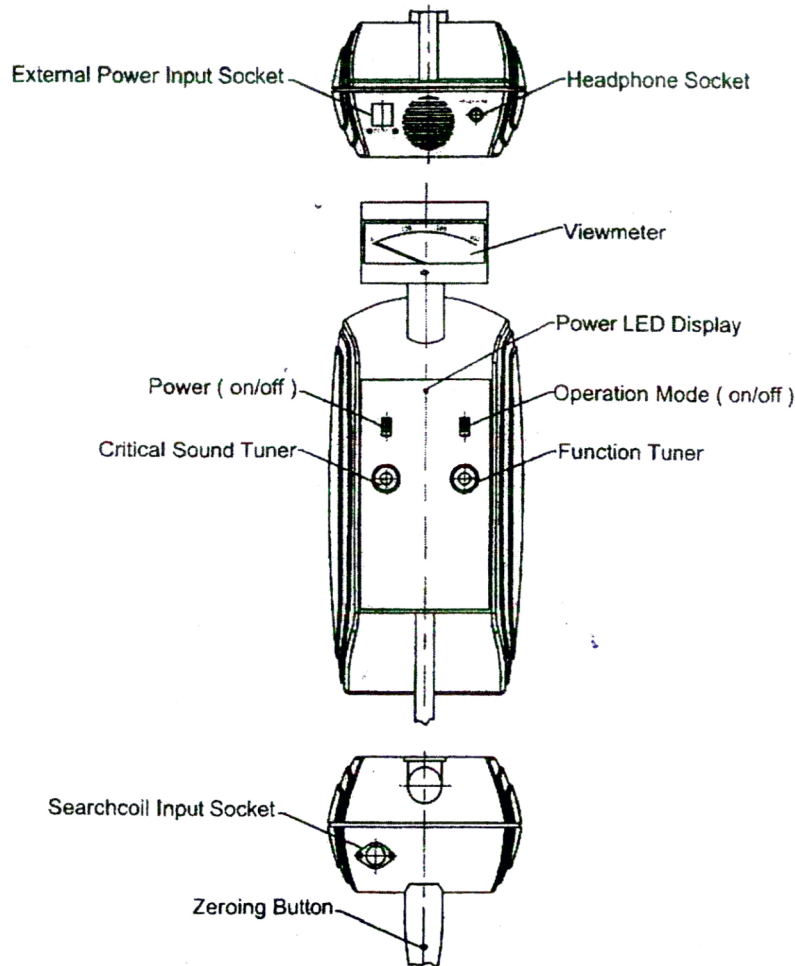
#### b) Function Adjuster

Function adjuster is used cooperating with operation mode switch, it's scaled with 0-10 **in ground balance** , detector can Eliminate "mineralization reaction" by tuning this turn button. in **this mode**, detector can distinguish different kinds of metal.

### 四 Earphone Socket and External Power Socket

The Detector is equipped with digital stereo earphone socket. In noisy area and the evening, user can use it.

The Detector is equipped with external power socket for additional battery support.

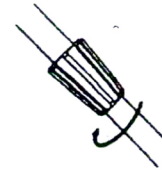


## PREPARATION

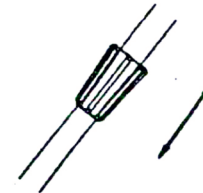
### ASSEMBLING THE DETECTOR

Assembling your detector is easy and requires no special tools. Just follow these steps.

1. Turn the stem's lock nut clockwise until it loosens.



2. Lengthen or shorten the stem so when you stand upright with the detector in your hand, the search coil is level with and about 8 inches above the ground with your arm relaxed at your side.

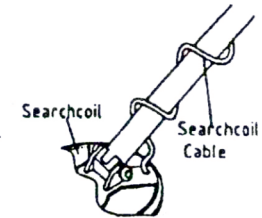


3. Turn the stem's lock nut counterclockwise to lock it in place.

4. Unscrew the knob on the search coil and remove the knobs and connector. Insert the stem and align the holes on the search coil

bracket and the stem. Push the connector through the holes and tighten the knob

5. Wind the search coil cable around the stem. Leave enough slack in the cable to let you adjust the search coil when you are hunting on uneven ground.



6. Insert the search coil's plug into the search coil jack on the detector's control housing. Be sure the pins on the plug align with the holes in the jack.



#### Cautions:

- The search coil's plug fits into the connector only one way. Do not force the plug or you could damage it.

- To disconnect the search coil's cable from the detector, grasp the plug and pull it out of the connector. Never pull on the cable.

7. Loosen the knob at the search coil's end, then adjust the search coil to the desired angle. (The search coil should be parallel with the ground.) Tighten the knob just enough to keep the search coil from rotating or wobbling.

**Caution:** Do not overtighten the search coil or use tools such as pliers to tighten it.

### INSTALLING BATTERIES

You need 8 pieces of 1.5V batteries to power your detector.

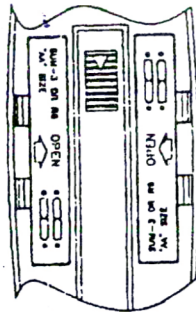
#### Cautions:

- Use only fresh batteries of the required size and recommended type.
- Do not mix old and new batteries, different types of batteries (standard, alkaline, or rechargeable), or rechargeable batteries of different capacities.

- If the detector is ON, turn it to OFF.



- Press the right battery compartment cover's tab and slide the cover off in the direction of the arrow.
- Place 4 pieces of 1.5V battery into the battery compartment on top of the ribbon, matching the polarity symbols (+ and -).
- Replace the right battery compartment cover.



- Press the left battery compartment cover's tab and slide the cover off in the direction of the arrow.

- Place 4 pieces of 1.5V batteries into the battery compartment on top of the ribbons, matching the polarity symbols (+ and -) marked.

- Replace the left battery compartment cover.

#### Cautions:

- Always remove old or weak batteries; batteries can leak chemicals that can destroy electronic parts.
- If you do not plan to use the detector for a week or more, remove the batteries.
- Dispose of old batteries promptly and properly.

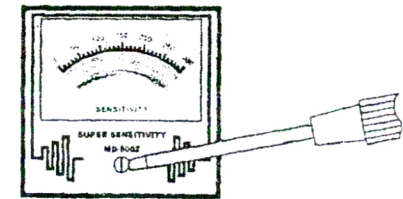
You can extend battery life by using headphones, which require less power than the built-in speakers.

### TESTING THE BATTERIES

If the indicator light is dim or dark, so the detector does not turn on, has weak volume, will not tune properly, has erratic operation, or drifts. Replace the batteries.

### ADJUSTING THE METER

With MODE set to OFF, use a screwdriver to adjust the alignment control until the pointer lines up with 0 on the scale.



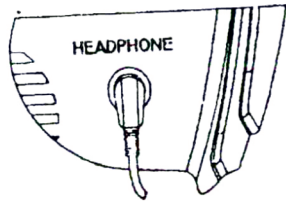
### USING HEADPHONES

You can connect a pair of stereo headphones (not supplied) to the detector so you can listen to it privately. Using headphones also save battery power and makes it easier to identify subtle in the sounds you hear, for better detection results.



To connect headphones to the detector, insert the headphones' 1/8 inch plug into the headphone jack on the side of the control housing.

The detector's internal speaker disconnects when you connect headphones.



#### Listening Safely •

To protect your hearing, follow these guidelines when you use headphones.

- Set the volume to the lowest setting before you begin listening. After you begin listening, adjust the volume to a comfortable level. Do not listen at extremely high volume levels. Extended high volume listening can lead to permanent hearing loss.

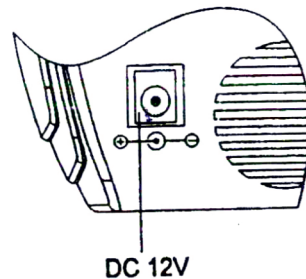
- Once you set the volume, do not increase it. Over time, your ears adapt to the volume level, so a volume level that doesn't cause discomfort might still damage your hearing.

#### Traffic Safety

Do not wear headphones while operating your detector near high-traffic areas.

Even though some headphones are designed to let you hear some outside sounds when listening at normal volume levels, they still can present a traffic hazard.

#### External Power Jack



## ACTUAL DETECTION OPERATION

First place batteries into compartment, during detection, keep search coil 10-15 above the earth and move parallel over the earth. Don't rise search coil too high to causing the decrease of detection depth' ability.

### — GROUND BALANCE MODE

This mode can eliminate the "mineralization reaction" and has better penetrability, so this mode is mostly selected wherever indoor or outdoor search. In this mode, as long as the search coil is moved right over metal target, detector sounds and viewmeter's pin-pointer moves no matter what kind of metal is detected.

Follow steps below to adjust it:

- 1). Set MODE to GROUND BALANCE;
- 2). Rise search coil 70-80cm over the earth
- 3). Press zeroing button, set critical sound. then release button.
- 4). Close search coil 10-15cm above ground, if "critical sound" increases, please rise search coil and press button, turn **function adjuster** anti-clockwise a little, then relieve button. Close search coil to the ground once more, if sound still increases, try as above again, after tuning a few times, whenever search coil is close or far-away from ground, signal sound keeps steady this express GROUND BALANCE is ok. After such adjusting, "mineralization reaction" is basically eliminated, critical sound doesn't change with search coil's "up and down" moving, detector only responds to metal target.
- 5). if signal sound decreases when closing ground, rise search coil and press zeroing button, turn clockwise function adjuster, then release zeroing button. If sound still decreases, set as above again until

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sound keeps steady whenever detector is close or far away from ground.

6). **Note:** before each item as above, you need to press zeroing button first, after finishing each item, release the button.

7). After adjusting as above, you can move search coil slowly along the ground during detection, keep detector in critical sound state. If sound signal rises or falls, press or release zeroing button to get critical sound again. When found metal, viewmeter will have obvious display.

## DISCRIMINATION MODE

This mode is used for distinguishing ferrous and non-ferrous metal, to select metal target. For not having GRUND BALANCE function, mineralization reaction is heavy, so users should keep the distance between search coil and ground, move slowly over the ground.

Follow these steps to set it:

- 1). Set MODE to DISCRIMINATION;
- 2). Press zeroing button, set critical sound;
- 3). During detection, You can eliminate unneeded target in actual circles. For example, in an area full of iron nail, iron nail's signals will interfere detection, to solve such problem, you can first put an iron nail on the ground and let search coil sweep over it: A) if the sound increases, press the button and rotate the function adjuster anti-clockwise a little, then relieve zeroing button and try again, B) if sound falls; press button and rotate function adjuster clockwise a little, then relieve button to try; all is ok until sound keeps steady when search coil sweeps over the iron nail.

After adjusting, detector will not respond to iron nails and ferrous metal whose size is smaller than the nail; but will respond to all

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non-ferrous metal and ferrous metal whose size is bigger than the nail. 4). Tune function adjuster below scale 2, sound rises when responding to bigger non-ferrous metal but falls when responding to bigger ferrous metal; Tune function adjuster's scale over 7, sound rises when responding to bigger ferrous metal but falls when responding to bigger non-ferrous metal.

If distinguish a sheet of iron, phenomenon is peculiar: when search coil is close to its edge, detector reacts same as responding ferrous metal; when close to its center, detector reacts same as responding non-ferrous metal.

## 三. DETECTION EXAMPLE

In actual detection, user should use detector basing actual circles,

**For example: Detect Mine**

The Detector is able to be used for detecting mine buried in flat earth, such as natural gold bullion, gold reef, placer gold mine, all kinds of rich mine, etc.

Detect natural gold is same as detect metal coin detecting in Ground Balance you must pre-set Ground Balance for most gold bullion is buried in terrance high mineralized.

In placer gold mine, gold dust is mixed with sands and large amount of heavy metal mine's sediment. Signal caused by this mixture is same as it caused by black metal, but a little weaker than signal caused by pure metal.

With The Detector, we can also filtrate ore to do this, first fix detector on a non-metal support, then close ore to search coil one by one, estimate metal content in the ore by sound's high or low.

**Note:** press zeroing button each time after detecting one piece of ore.

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To copper, iron, stannum, lead, etc , signal is different because different quality. you can test one standard ore and get reaction, then confirm the distinction between this kind of ore and other common rock

### **CARE AND MAINTENANCE**

Cleaning : clean search coil part with waterish towel carefully, coil plug should be avoided dampness, or detector will loss detection ability; the plug can be used only after drying in such condition;

Battery : place batteries matching polarity symbols (+ and --) If you won't use it for a long time, take out the batteries to avoid putridness;

Temperature : The detector should be far away from furnace and other high temperature circumstance;

Brine brine has strong causticity, detector should be avoided being cauterized by it If brine is dipped in detector, wipe it up by dry towel.

#### **NOTE:**

1. If detector work abnormally , or signal sound can not be decreased after being increased; please replace battery.
2. Don't press Zeroing Button right over metal , press Button over area without metal in detection, don't press Button all the time.
3. If detector can not keep "critical sound", there is some problems with detector, please send it back to factory for fix.

### **MAIN TECH PARAMETER**

- Max detecton depth: 2.5 meter
- Operation Mode: Ground balance & Distinction
- Emitting Signal Frequency 6.99 ± 0.2KHZ
- Audio Signal Frequency 450HZ ± 10HZ
- Power 2.5 W
- Power Supply DC12V