

MD6500 - MD6050

Owner's Manual



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Metal Detector Owner's Manual

The metal detector is a detector, with excellent sensitivity and discrimination ability, it can identify and display six types of metals, it also can intensive indicate the material of the metal target using double digits. Through the latest patent design and the full digital location circuit, improve the accuracy and stability of the location. In the field of electromagnetic interference, the full digital location circuit has good anti-interference ability. It will bring enjoyment of high-end products.

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Specification

- Operation mode: Four plus one
 - Motion mode: All-metal, Disc, Memory and Jewelry
 - Non-motion mode: Pinpoint
- Coins depth indication: 2" ,4" ,6" , 8" and +
- Sensitivity control: 5 grades
- Target metals discrimination: 6 kinds
 - 0 to 99 double digits
- Signal strength indication: 5 grades
- Sound frequency: Three kinds of frequencies indicate different metals
- Volume indication: 3 grades
- LCD backlight: White
- Battery indication: 4 grades
- Shutdown automatically: Without any operation for 15 minutes, it will shutdown automatically.
- Search coil: 250mm open waterproof search coil
- Earphone jack: 1/8 inch earphone jack(earphone not supplied)
- Power supply: A 9V 6LR61 battery (battery not supplied)



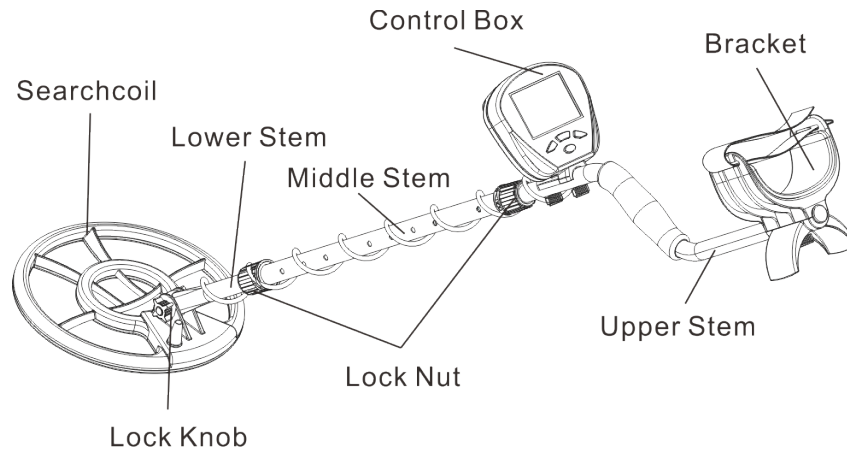


Fig.1

Assembly

1. Relax the lock knob on the lower stem, take down the bolt. Install the lower stem on the search coil, and lock it tightly (See Fig.2). Note that the rubber washer should be placed correctly.

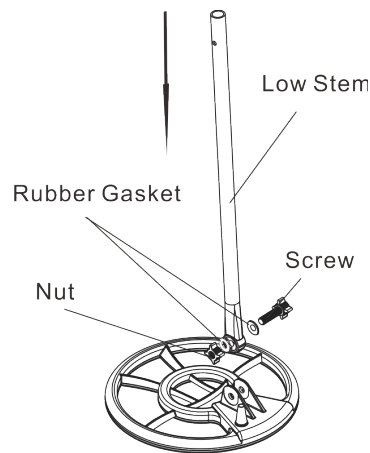


Fig.2

2. Relax the LOCK NUT on the middle stem, press the silver button on the lower stem, insert to the middle stem (See Fig.3).

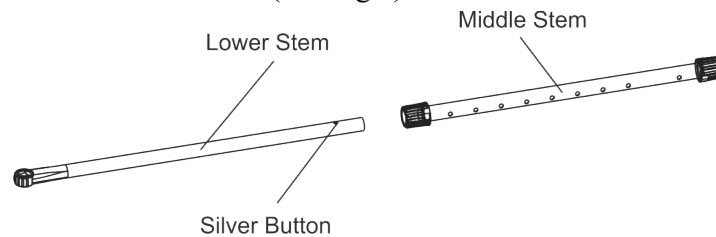
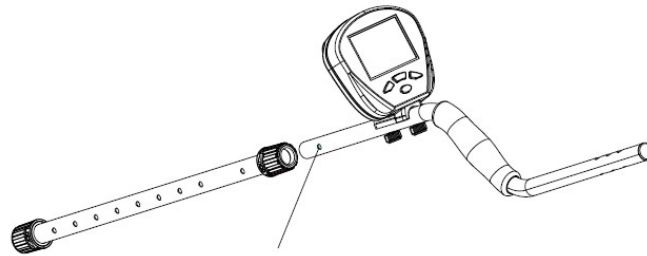


Fig.3

3. Relax the LOCK NUT on the other end of the middle stem. Press the silver button on the upper stem, and insert into the other end of the middle stem (see Fig. 4).



Silver Button

Fig.4

4. Adjust the depth that the lower stem inserts to the middle stem. Also, you can adjust the total length of the stem, making you detect comfortable with your arm straight.
5. Wind the cable of the search coil around the aluminum stem, elastic moderate, let it not sway. Plug the cable plot into the lower right of the control box, aim at the slot, and plug into the end (see Fig.5). Note do not pull the cable, pull the plug.

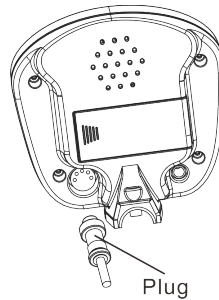


Fig.5

6. Adjust the position of the bracket arm. Loosen the screw under the bracket arm, making the bracket arm release up and down, remove the bracket arm and move it forward to a certain position, then tighten the screws (see Fig.6).

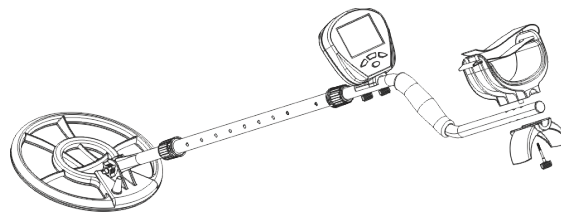


Fig.6

Battery

Please use one section of 6LR61button battery.

Open the battery cover, let the battery snap button up the battery. If you do not use the detector for a long time, please remove the battery from the battery case.

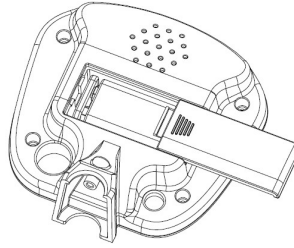


Fig.7

Panel (LCD and controller)

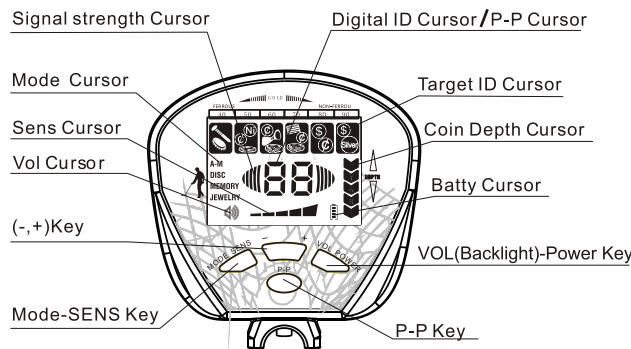


Fig.8

LCD

- Mode Cursor: indicate the operation mode, altogether divided into four kinds.
- Target ID Cursor: divided into 6 categories. It is used to indicate the target metals.
- Digital ID Cursor/Pinpoint Cursor: two digits of 01 to 99 finely indicate the metal material. It also acts as a P-P cursor, when displaying P-P characters, it enters the Pinpoint state.
- Coin Depth Cursor: divided into five grades. Indicates the approximate depth of 25 ¢ silver coin in neutral soil.
- Signal strength cursor: indicates the signal strength when in the Pinpoint state.
- Volume cursor: indicates the volume.
- Sensitivity indication cursor: divided into five grades, all lights lighted are the highest.
- Battery power cursor: divided into four grades, indicating battery power. When the battery pattern flashing, which means the battery should be replaced.

Button

- VOL-POWER button:
 1. VOL-Short press, regulate the volume circularly.
Long press for about 2 seconds, the backlight will be lit for about 10 minutes.
 2. Power- Short press turn on/ Long press for about 2 seconds turn off power supply.

- **MODE-SENS button:**
 1. Press the MODE button, cycle selection in four ways.
 - A-M--all metal state. To all the detected metals, the detector will respond.
 - DISC--discrimination state. The discrimination quantity can be adjusted, and reject the metals that don't need to be detected.
 - MEMORY-- remember some kind of metals you choose, and will only respond to this metal.
 - JEWELRY--reject iron, that is, it won't respond to iron, but it will respond to other metals.
 2. Press the SENS button, (−、+) buttons to adjust the sensitivity.
- (−、+) button: There are two functions.
 1. Press SENS button, the sensitivity cursor will flash, and the (−、+) button is used to adjust sensitivity.
 2. In DISC mode, the (−、+) button is used to adjust the discrimination quantity.
- **P-P button:** touch the "P-P" button, and the detector will convert to PINPOINT mode, to locate the target accurately. Touch the "P-P" button once again, exit the PINPOINT mode.

Quick-start

1. Lay the detector

Put the detector on a wooden or plastic table, and let the search coil stretch out of the table above 30cm, Keep away from walls, ceilings and floors, turn off all kinds of electrical appliances that will cause electromagnetic interference, remove watches and rings from hands. (see Fig.9).

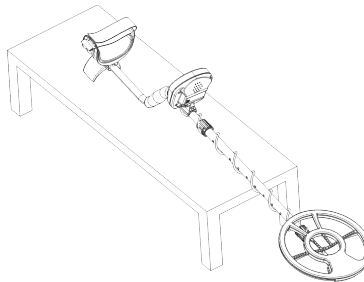


Fig.9

2. Turn on

Press the POWER button, the detector will sound two moo tones, and all LCD patterns will be lit for a moment. **the sensitivity level is reset on Grade 3 and all the other settings of the detector are reset to default values of last shutdown.**

3. ALL METAL mode test

Press the MODE button, the A-M cursor will light. Sweep six sample metals (iron nail, 5¢ nickel coin, pull-tab, 1¢ Zinc coin, 10¢ copper coin and 25¢ silver coin) above the search coil 7-10cm respectively.

- The detector sounds three different tones in turn.
- The depth cursor indicates the second grade.
- The target cursor flashes respectively. The digital cursor shows the corresponding number.

As shown in the table:

Sample	Iron nail	5 ¢ nickel coin	Pull-tab	1 ¢ zinc coin	10 ¢ copper coin	25 ¢ silver coin
Tone	Low tone	Low tone	Middle tone	Middle tone	High tone	High tone
Identification cursor indication						
Digital cursor indication	10-40	41-50	55-70	72-75	80-83	86-88

(See Fig.10 take iron nail as an example)

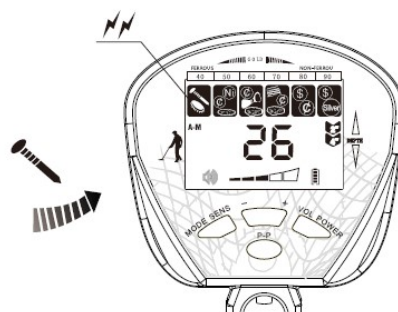


Fig.10

4. DISC mode test

- Press the MODE button again, the DISC cursor is lighted.
- Press (-, +) button, adjust the discrimination quantity, to reject some metals which do not need to be detected. For example, to reject three kinds of metals such as iron, nickel and pull-tab. Press the (-, +) button, making the three target cursors on the left extinguish.
- Sweep the six metal samples about 7 to 10cm above the search coil in turn.
- When sweeping the iron nail, 5 ¢ nickel coin and pull-tab, the detector will not respond, they are rejected.
- When sweeping the other three samples, the corresponding target cursor flashes, and the digital cursor shows the corresponding number. (See Fig.11, take 25 ¢ silver coin as an example)

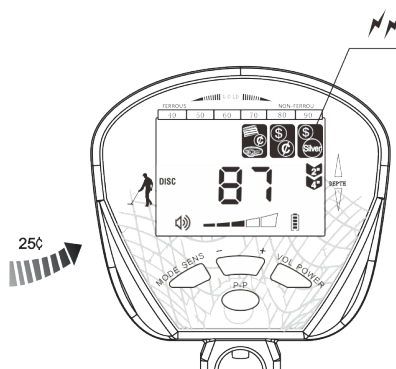


Fig.11

5. MEMORY mode test

a) Press the MODE button again, the MEMORY cursor is lighted. And the target discrimination cursor is all lighted.(see Fig.12)

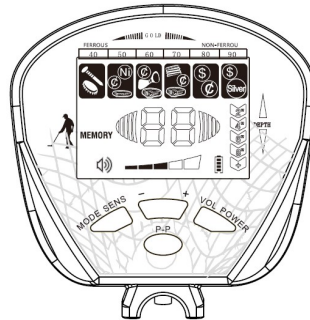


Fig.12

b) If the operator envisages to search 25 ¢ silver coin and rejects the other metals, the following operations can be carried out:

Let the 25 ¢ silver coin scan above the search coil about 7-10cm, the target discrimination cursor that the 25 ¢ silver coin corresponding to continues lighting, while the other discrimination cursors are extinguished. (See Fig.13)

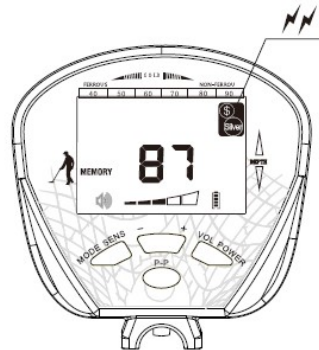


Fig.13

- c) Sweep the six samples about 7-10cm above the search coil.
- d) When sweeping the 25 ¢ silver coin, the detector responds, indicating that the detector has memorized the 25 ¢ silver coin.
- e) When sweeping the other five samples, the detector does not respond. (see Fig.14, take the 25 ¢ silver coin as an example)

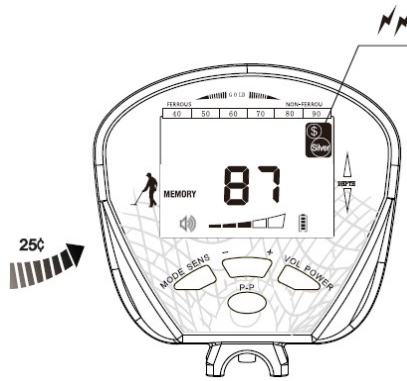


Fig.14

f) If you want to search other material metals, press the "MODE" button again. The MEMORY cursor still lights up, and still shows the same as Fig.12. Then repeat the above operation.

g) To quit the MEMORY mode, press the MODE button, making the detector return to the state of Fig.12. Then press the MODE button again, to quit the MEMORY mode, and enter the next operation mode.

6. JEWELRY mode test

Press the MODE button again, the JEWELRY cursor is lighted. The first target cursor on the left extinguished, showing that the iron is rejected. It only responds to other metals. (See Fig.15, take 1 ¢ zinc coin as an example)

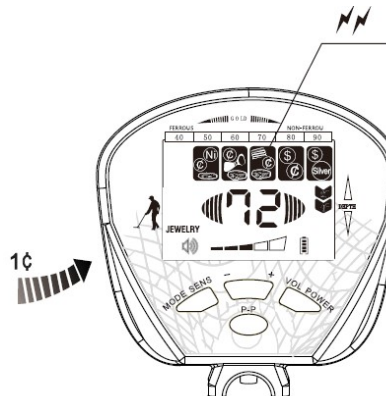


Fig.15

7. PINPOINT mode test

a) Touch the "P-P" button lightly, and the PP cursor lights and flashes. The detector completes the balance, and the PP cursor stops flashing. The identify cursor and digital cursor are extinguished, the depth cursor is full, and the detector sounds a slight single frequency tone. (See Fig.16)

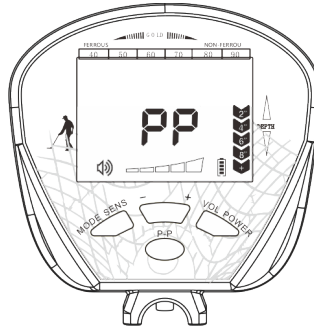


Fig.16

b) Take a 25¢ silver coin and let it approach the search coil slowly. At the position of about 7" to 8", the first set of signal strength cursor begins to appear, the sound becomes louder and the tone becomes higher. Continue to move the 25¢ silver coin, the signal strength cursor is fast full, the sound is more louder, and then the depth cursor indicates the depth down until only one is left, indicating that the metal is gradually approaching the center of the search coil. (See Fig.17)

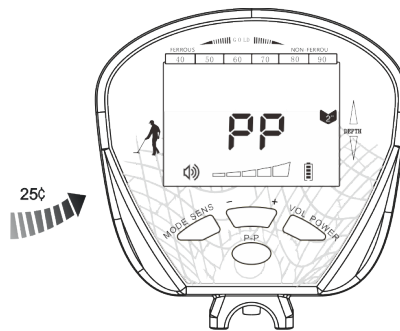


Fig.17

c) Touch the "P-P" button lightly again, the PP cursor will extinguished, and exit the PP mode.

Done this step, the user has an initial familiarity to the detector, and he can begin the next step of basic operation.

Basic Operation

Metal detector is used outdoors. There is too much metals indoors, and all kinds of electrical equipment that will bring interference signals. So it is not fit for using the detector indoors.

Field detection is more complicated, the composition of the regional soil, the component, size, shape and the oxidation degree of the underground metals will all affect the detection results. This chapter is only the general steps of the field detection. You should operate again and again, accumulate experience to achieve good results.

1. Turn On

Hold the detector, keep the search coil be away from the ground. Press the Power button, the detector will sound two moo tones, and all the LCD patterns are lighted at

minutes. the sensitivity level is reset on Grade 3 and all the other settings of the detector are reset to default values of last shutdown..

2. Set the operation mode

In generally, the user could choose the ALL METAL mode. At this time, the detector will make identification response to all kinds of metals.

3. Choose the sensitivity

The user always expects to set the sensitivity higher. However, in the higher sensitivity range, the detector will be sensitive to the electromagnetic interference that comes from the power lines or cables around, and it will do abnormal reaction to the mineralization soil or electrical conductivity soil. If you move the search coil in the detection area, and the detector sends an unstable false signal, please decrease the sensitivity.

If you operate the detector with your partner at the same time, please pay attention to keep more than 10 meters away from each other, and decrease the sensitivity appropriately.

4. Move the search coil

When detecting, move the search coil at a constant speed, not unsteadily. Let the search coil be parallel with and about 1/2 inch from the surface, not to swing it like a pendulum, high and low above the ground. (See Fig.18)

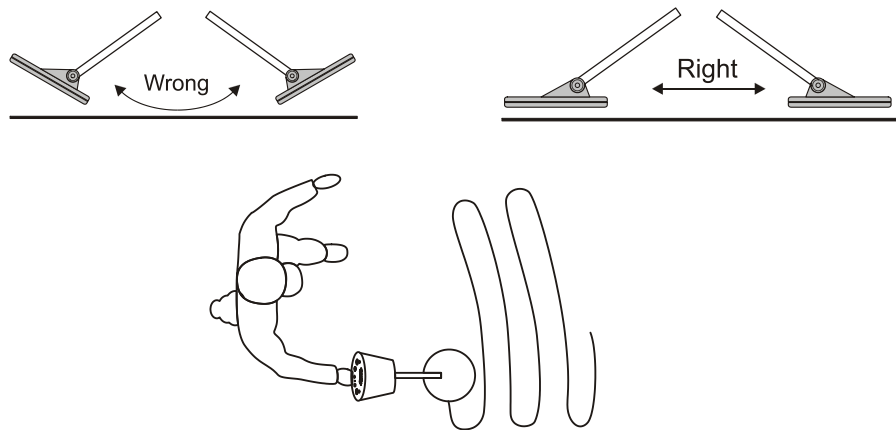


Fig.18

Most valuable metal objects will send repeatable signals. If the signal isn't repeatable, it's mostly a false signal. When there is a clear sound instructing the buried targets, you could read out the approximate target type and depth on the LCD screen. And you could also move the search coil above the target objects fast, in order to get a more stable signal.

5. Make use of the sound, to help discrimination

In the process of detection, you needn't always watch the screen. And the sound

identification system will sound four frequency tones to help you discriminate the targets.

Low pitch——5 ¢ nickel coin and so on.

Meddle pitch——pull-tab, soda bottle and zinc coin.

High pitch——copper, aluminum and silver metal, such as 1 ¢ ,10 ¢ ,25 ¢ and so on.

6. Make use of the digital cursor, to help discrimination

The following table is used as a preliminary guide. The approximate ranges of US dollar and pound sterling coins are listed in the table. When detecting, there may be some changes in the number, depending on the composition, size, shape, distance from the search coil and speed of scanning. The surrounding soil also affects the numerical value. There are differences in casting coins in different years. The values in the table are only reference. Gold has a wide numerical range, a thin ring is about 45, and a rough ring and gold coin may up to 70-80.

Number Range	Possible Metal	Dollar Coin	Pound Coin
01--40	Iron		1P
41--55	Nickel	5 ¢	5P , 10P, 50P
55--65	Pull-tab		20P,(10P,50P)
65--75	Zinc, soda bottle	1 ¢	1 £
75--85	Copper, aluminum	10 ¢	2 £ ,2P
85--99	Silver	25 ¢ ,1 \$	

7. Depth indication

The depth indication is accurate for coin-sized objects. Large objects or irregularly-shaped objects will yield less reliable depth readings. If sweeping at the same place for several times, but shows the same depth, and it is the more accurate detection. If the depth indication varies, try to change the angle of sweeping. There may be more than one target present.

8. PINPOINT

When detecting in the motion mode, as you should persistently move the search coil, so although you find the region that burying metals, it's not easy for you to determine the exact location, it gets the digging difficult. At this time, you should recur to the PINPOINT mode.

- Touch the PINPOINT button, the PINPOINT cursor is lighted, the depth cursor will be full scale, and the detector will sound a low single-frequency tone, the sensitivity is in the highest state.
- Let the search coil approach the ground, move the search coil slowly in the region, where you find the target. In the position where the single frequency tone turns louder, and the signal strength cursor begins to appear. Continue moving the

search coil slowly until the sound turns louder, the signal strength cursor is full scale, and the depth cursor is the lowest. Now, you have locked the target location roughly.

- c) If the area with the strongest signal is larger and the location is not accurate enough, you can keep the location of the search coil unchangeable and exit the PP mode. Then touch the PP button again and repeat the above operation. Until you move the search coil slightly, and the strongest signal will be smaller. Now, the position of the metal target has been locked. You can mark on the ground by the center of the open search coil, to facilitate the digging.

9. You can choose other operation mode according to your needs and experience. If there are more scrap metals in the detection area, you can choose the DISC mode to reject the metals that do not need to be detected. Remind you once again, when detecting in the wild, due to the impact of the ground condition, the discrimination indication and depth indication will be all deviation. The composition, size and oxidation of the metals will all affect the indication result. It's necessary for you to consider these factors before choosing elimination a certain metal or determining whether there are precious metals. Not to eliminate the precious metals.

When detecting small metal particles, it is highly recommended to choose the non-motion mode (P-P) and detect target metals carefully by moving the searching coil slowly in detecting areas. In the motion mode, you need to move the search coil relatively fast. However, the signal strength of small metal particles is quite weak, so the exact metal materials cannot be easily discriminated and can even be eliminated.

In fact, the sensitivity in the non-motion mode is high, search metals directly using non-motion mode is also a choice. In some regions, the ground is too narrow to sweep search coil, you could choose the PINPOINT mode. In the severe mineralization or salinization region, you could try to sweep using PINPOINT directly.

Caution

- 1) In areas with heavy traffic, please not wear earphone, in case an accident occurs.
- 2) Always obtain permission before searching any site.
- 3) Keep away from the region where may bury electrical line, cable line or pipeline, in particular the pipes that are full of flammable gases and liquids.
- 4) Do not detect in the military area where may bury bombs or gas explosives.
- 5) When excavating the target, use the reasonable method, not destroy the vegetation. Leave the land and vegetation as it was, fill in the holes after the excavation.

TROUBLE SHOOTING GUIDE

SYMPTOM	SOLUTION
No power, no boot sound, and the LCD	1. Be sure that the batteries are installed

has no indication.	correctly. 2. Replace the batteries.
Sound a successive “DI” “DI” tone	1. Make sure that there is no other metal detector operating around. 2. Release the sensitivity properly.
The LCD displays normal, but the unit has no detection function.	The connection of the search coil is bad. Plug in the cable plug.
The LCD displays normal, but the sensitivity is very low.	When turning on, there is metal near the search coil. Let the search coil be far away from the ground, and then turn on the unit again.
Sound an irregular tone, or the target identification cursor chatters.	1. Don’t use it indoors, because there is many metals there. 2. Make sure whether there is electromagnetic interference source, such as power lines, cables, electronic fences and so on. Keep away from these areas, or try to reduce the sensitivity.
The signal is unstable, and the position of the target identification cursor is changing.	1. Sweep at a different angle, in order to determine whether you can get a more stable signal. 2. If the target is buried deeply, you could try to increase the sensitivity or speed up the speed of sweeping the search coil, in order to get a more stable signal. 3. Maybe more than one metal targets buried there, try to increase the sensitivity or set different discrimination range to sweep. 4. Maybe you find a severe oxidation target, or the ground is serious magnetic, you should try to decrease the sensitivity.
Using PINPOINT, when the search coil approach the ground, the unit will sound a tone.	1.The ground is serious magnetic. In the position near the ground, start the PINPOINT mode, to reduce the sensitivity. 2.There is large metal under the ground.