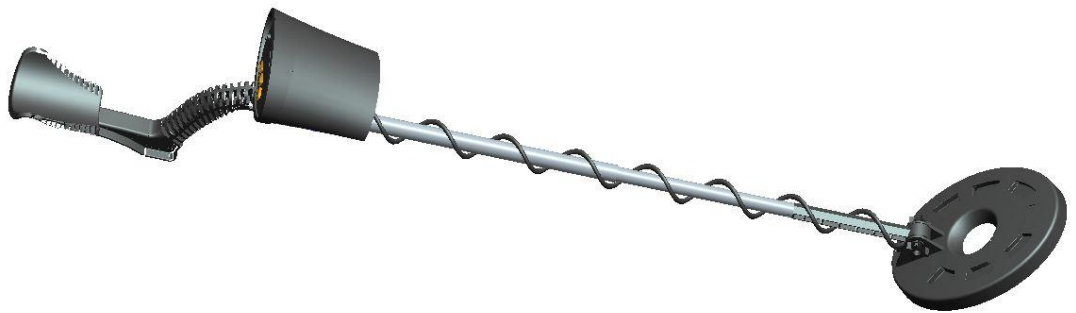


METAL DETECTOR

MD6030



METAL DETECTOR OWNER'S MANUAL

The metal detector is a detector designed for beginners, it is easy to use. With the latest design, the unit has good sensitivity and the ability to discrimination, the result of the detection will display on the LCD. Using the fully digital positioning circuit, improve the accuracy of positioning. In the field with electromagnetic interference, the fully digital positioning circuit has good anti-interference ability.

Read this manual carefully before using. Most importantly, review the **Quick-Star Demo** and **Basic Operation**.

TABLE OF CONTENTS

Terminology

Specification

Assembly

Battery

Panel and LCD

Controller

Quick-star

Basic operation

Caution

TROUBLE SHOOTING GUIDE

TERMINOLOGY

The following terms are the common terminology among metal detector.

● Motion Mode

This is one of the circuit operation mode in the metal detector technology. It means you have to move the searchcoil continuously during detecting. In generally, motion mode can reduce the effect of the soil mineralization, and will have a better discrimination ability.

● Non-motion Mode

This is the other circuit operation mode in the metal detector technology. When detecting, you needn't move the search coil continuously, as long as the searchcoil approaches the metal at a certain distance, the detection will be achieved. In the non-motion mode, the detector can't discriminate the metal types.

● Elimination

To eliminate a particular metal, which is set by the user. During detecting, when the detector finding the specified metal, the detector will not send prompt signal, such as light, electricity and sound.

● Discrimination

To different types of metals, the detector will sound a different tone or give a different indication, and it will also eliminate the specific metal, we refer to this as “discrimination”. Discrimination is an important feature of metal detectors.

- **Iron**

Iron is a common metal. It's usually not the detection target, undesirable iron objects contains such as iron nail, bolts, old cans, caps and so on. But some valuable relics may also be made of iron, such as old armaments, old armature and so on.

- **Ferrous**

Metals which are made of, or contain iron.

- **Trash metals**

Caps, pull-tabs, bottle-caps from beverage containers are the most bothersome trash items for treasure hunters, you should eliminate them during detecting. But some other valuable objects have a similar magnetic field with the above trash metals, and will also be eliminated as trash when discriminating.

- **Pinpoint**

Pinpoint is the process of determining the exact location of the buried metal object. As in the motion mode, you need to move the search coil continuously when detecting, it's hard to determine the exact location of the buried metals. In the Pinpoint mode, using the Non-motion technology to let the search coil center align with the location of the buried metal, to help your excavation.

- **Ground balance**

Because the metals burying in the earth, the mineralizer in the soil will affect the detection. The ground balance will eliminate or weaken the shielding effect of the mineralized soil.

The ground balance is divided into built-in ground balance and adjustable ground balance.

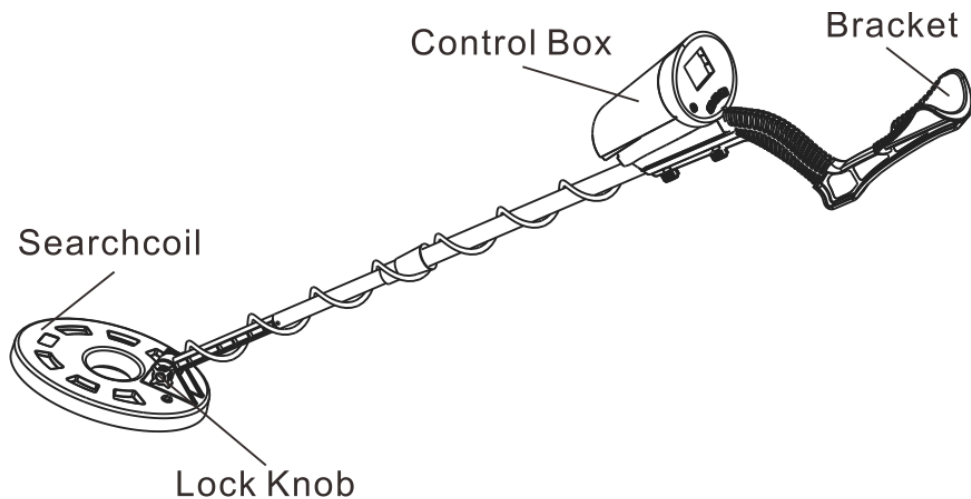
- **Coins depth**

The coins depth the detector referred to, is generally the approximate distance that the 25 ¢ silver coin is in the neutral soil or in the air. It's not an exact depth.

SPECIFICATION

- Operation mode: 1+1
 - Motion mode: ALL-METAL
 - Non-motion mode: PINPOINT
- Coins depth indication: 1, 2, 3 Steps (2" , 4" and 6" +)
- Sensitivity control: 3 Steps

- Target metals discrimination: 3 kinds
- Sound frequency: Three kinds of sound indicating different metals
- Battery indication: Low battery indicate
- Turn off prompt: Sound a prompt tone every ten minutes
- Search coil: 210x70mm open waterproof search coil
- Earphone jack: 1/8 inch earphone jack(earphone not supplied)
- Power supply: 6 AA batteries (batteries not supplied)



ASSEMBLY

1. Loosen the two triangular fasten buttons below the control box,insert the bracket,then tighten the two triangular fasten buttons (See Fig.1).

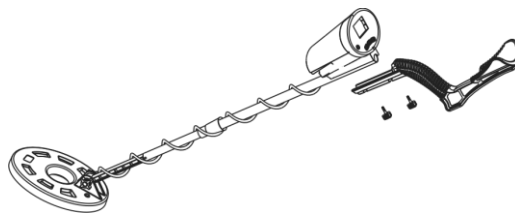


Fig.1

2. Turn clockwise to relax the end of bend-shape tube sleeve,and insert the tube which connect search coil into the sleeve.Adjusting the length,so you can stand comfortably and straighten your arms.Lock the sleeve anti-clockwise when the search coil is from the ground about 1/2 inches.See Fig.2,Fig.3.

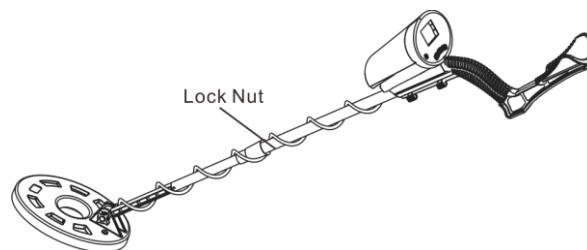


Fig.2

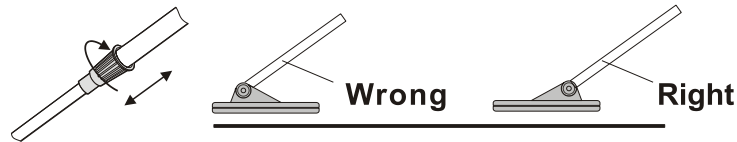


Fig.3

3. Wind the cable around the aluminum tube, keep the elastic moderate, so that the cable won't sway.

BATTERY

Please use 6 alkaline AA batteries.

1. Press the "key" on the battery cover in the direction of the arrow, pull out the battery cover. (Fig.4)

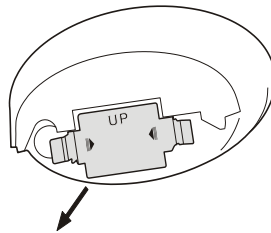


Fig.4

2. Insert the 6 AA batteries to the case as indicated by the polarity symbols marked inside the case.

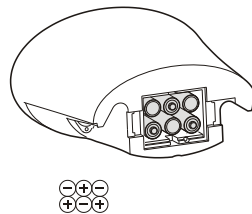


Fig.5

3. And then push the battery cover to the battery cavity. A KATA tone will be heard, which means the battery cover has been at the right position. Please note that the direction indication of the "UP" on the battery cover.

6 alkaline batteries are available for about 40 hours. If you won't use the detector for a long time, please remove the batteries from the battery box.

PANEL AND LCD

All the controller adjustment can be displayed on the LCD, and all the detection

result also can be shown on the LCD. (See Fig.6)

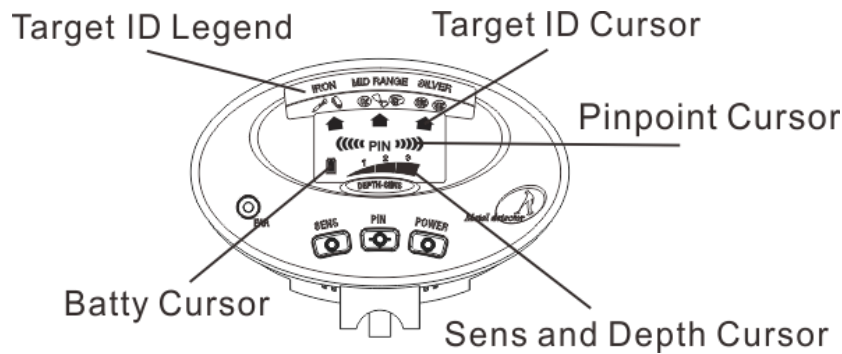


Fig.6

- Target ID pattern:It's located above the LCD screen.It indicates the wanted target metals.When detecting a metal target,the target ID cursor will appear below the such metal patterns or the words.
- Target ID cursor:it's in the shape of 🏠.It consists of 3 segments.When the target ID cursor is lighted,which indicates the probable metal type of the detected target. The three warning tones which be heard during finding targets are corresponding with the target ID cursor.See the below table:

Low pitch	Mediant	High pitch
IRON	5 ¢, 🏠	10 ¢ ,25 ¢ ,50 ¢ and 1 \$

Note:affected by the soil composition,as the same material metal in the different soil,the position of the target ID cursor will have a change.

- Coin depth indication cursor:it contains three grades,namely 1,2 and 3,equivalent to 2",4" and 6".It indicates the approximate depth of the 25 ¢ silver in the neutral soil.It's only the approximate depth.The size and composition of the target,and the composition of the soil will affect the indication value.
- Sensitivity indication cursor:It's shared with the depth cursor,when detecting metals,it turns into depth cursor automatically.It is divided into three grades,which is the highest when all are lighted.By the SENS button to adjust .
- PINPOINT cursor:Press and hold down the "PINPOINT" button,the PINPOINT cursor is lighted,and the detector turns into NON-MOTION mode,it's apply to locate the detected object accurately.
- Battery power cursor:When all the cursor is lighted indicating the power is enough.While all the battery indicator is extincted,it's time to replace the battery right away.

CONTROLLER

All the controllers are on the panel. (See Fig.7)

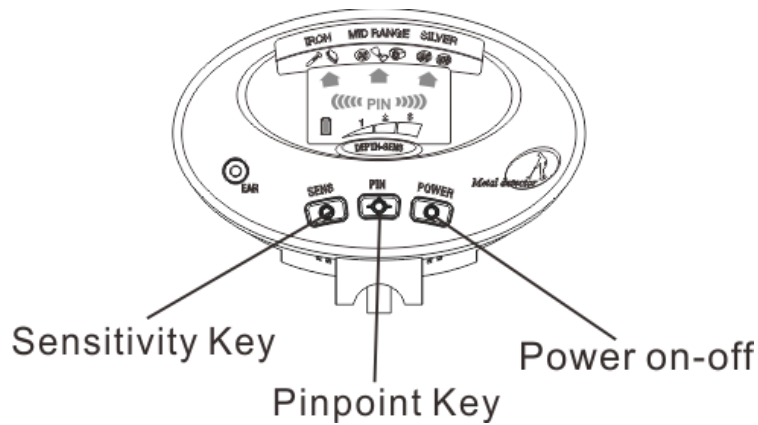


Fig.7

- Power button:press the button, the power is on,and press it once more,the power is off.
- SENS Button:choose the 3 levels with the SENS botton.Boot setting is the middle level(the second level).The highest sensitivity is the third level,when there is interference,you can set the sensitivity lower properly.In the PINPOINT mode,the SENS button is useless.
- PINPOINT Button:press and hold down the “PINPOINT”button,the detector converts into the non-motion mode automatically,it no longer has discrimination ability.At this time,the PINPOINT cursor is lighted,and indicates the signal strength.The more close to the metal target,the more the strength cursor is lighted,and more louder the sound is,to locate the target location accurately.

QUICK START

1. Prepare with the three metal samples

- an iron nail
- a 5 ¢ nickel coin
- a 25 ¢ silver coin

2. Lay the detector

Place the detector on a wooden or plastic table,let the search coil exceeds the table edge about more than 20cm.keep the detector away from the wall,ceiling and floor,turn off all the equipment which can cause electro-magnetic interference.Please take off the watch,ring or other metal objects on your hand.(See Fig.8).

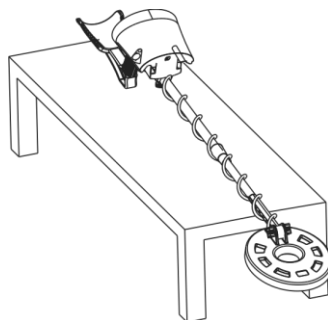


Fig.8

3. Turn on

Press the POWER button, and the detector will sound two moo tones, all the LCD patterns are lighted at minute, the detector is in the ALL METAL mode by default, and the sensitivity is in the second grade. (See Fig.9)

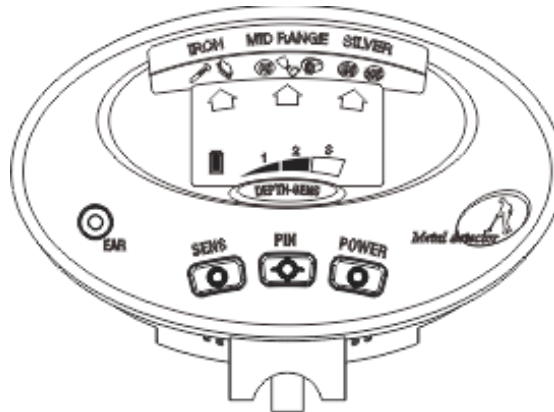


Fig.9

4. Test

Sweep the three metal samples 5 to 8cm above the search coil.

- a) The detector sounds three different tones in turn.
- b) The depth cursor points to the second grade.
- c) The Target ID cursor points to the three materials.

As below table

Sample	Iron nail	5 ¢ nickel coin	25 ¢ silver coin
Tone	Low pitch	Mediant	High pitch
Target ID indication	IRON	5 ¢	25 ¢

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

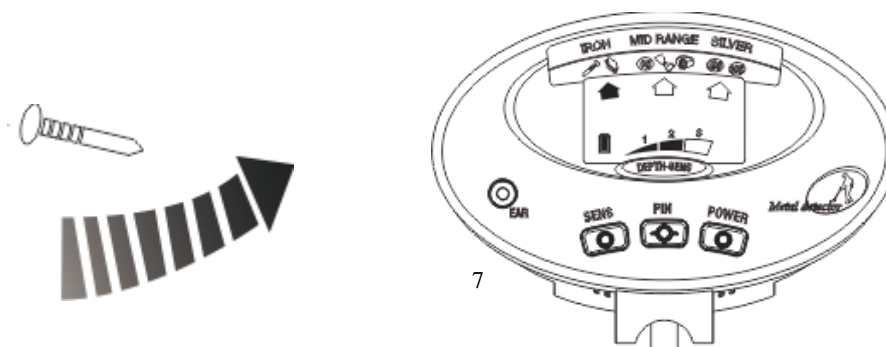


Fig.10

5. PINPOINT mode test

- a) Press and hold down the “PINPOINT” button, the PINPOINT cursor is lighted, and the depth cursor points to the third grade. the detector will sound a low single-frequency mediant. (See Fig.11)

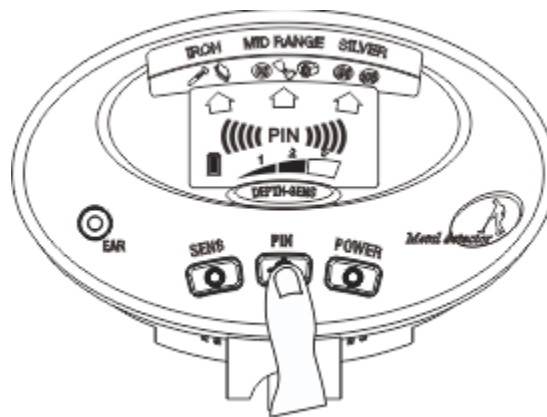


Fig.11

- b) Let the 25¢ silver coin approach the search coil slowly, when it is in the position of about 6", the strength cursor begins to appear and turns stronger, the sound turns louder. Continue to let the 25¢ silver coin approach the search coil, till the strength cursor is full-scale lighted, the sound is more louder, then the depth cursor denotes the depth dropping. (See Fig.12)

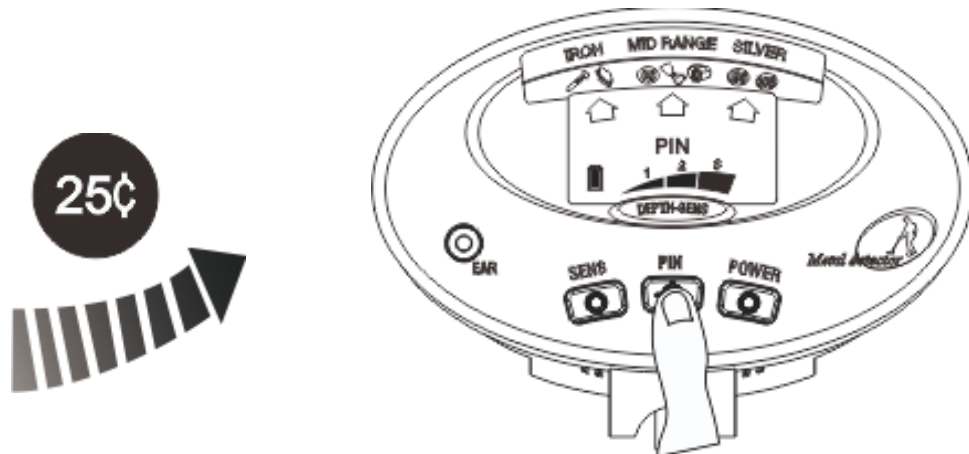


Fig.12

- c) Maintain the position of the silver coin,release the PINPOINT button.Press the PINPOINT button again after several seconds,the lower cursor is extinguished,and the sound comes back to the initial state,the depth indication comes back to the full scale.
- d) Let the silver coin move to the center of the search coil again slowly,the lower cursor appears again and increases,the sound turns louder again,the depth cursor goes lower again,which means the metal target is closer to the center of the search coil.
- e) Repeat the above procedures for several times,till the silver coin is closer to the searchcoil center.When moving the silver coin,the cursor and sound no longer change.Up to now,you have had a “PINPOINT” operation completed.

Done this step,you have an initial familiarity to the detector,and you 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

Press the Power button,the detector will sound two moo tones,and all the LCD patterns are lighted at minutes.Then the sensitivity will be to the preset second grade,and the operation mode will be to the preset ALL METAL mode.

2. Set the operation mode

In generally,the user can choose the preset ALL METAL mode.At this time,the detector will make discrimination responses to all kinds of metals.

Since the soil will make the detection indication deviate,we suggest you bring some samples,such as 25¢ silver coins, 5¢ nicker coins and so on.Bury these samples in the soil of the detection region respectively,try to detect,observe the position of the discrimination cursor appeared,and how much deviation from the target pattern.It will help you judge the type of the target,in case you omit the treasures that you want to find.

Directly using the PINPOINT to detect,which is also an alternative way.Specifically in the region where the ground is more complicated or there is too much electromagnetic interference,the effect may be more better.

3. Choose the sensitivity

The users always expect to set the sensitivity more 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 will send 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, you should 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.13)

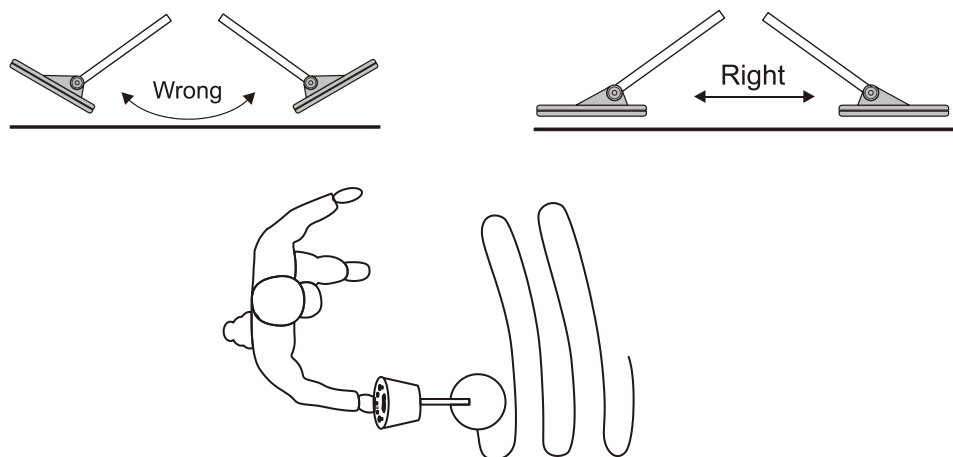


Fig.13

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 discriminate

In the process of detection, the user doesn't always watch the screen. And the sound identification system will sound four frequency tones to help discriminate the targets.

Low pitch—ferrous metals, such as iron nail, caps and so on.

Mediant—S-caps, 5 ¢ nickel coin.

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

6. 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.

- a) press and hold down the PINPOINT button, the detector will sound a low single-frequency tone, and the sensitivity is in the highest state.
- b) Let the search coil approach the ground, when you find the target, move the search coil slowly in the region. 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 more louder, and the signal strength cursor is full scale.
- c) Maintain the position of the detector, release the PINPOINT button for several seconds. Press the PINPOINT button again, the detector is self-balanced, and sounds a low single frequency tone, the signal strength cursor is extinguished. Move the search coil slowly again, let the single frequency tone turns more louder, and the signal frequency cursor gets more lighted.
- d) Repeat the operation and approach the target, until you lock the location of the metal target. You could make notes on the ground by the center of the open search coil, to facilitate your excavation.
- e) In the process of the PINPOINT, the depth cursor will turn into the signal strength cursor, which denotes the distance between the center of the search coil and the target, to help you pinpoint the location. Finally, the depth cursor will remain at the position of 2". In fact, it means the target is near from the center of the search coil.

7. Depth and Target Indication(only in the motion mode)

Preset the detector in the motion mode. The LCD screen will show the rough metal target types and the rough target depth.

When the position and type of the target are determined, the detector will send a repeated signal. If detecting in the same place, while the discrimination display is inconsistent, which means the target may be false, or it may be the trash metal or highly oxidation metal. Through practice, you must bear in mind only the repeatable signal existent, then you do excavation.

When finding a metal target, the identification cursor will indicate the metal type. The identification pattern, based on the metal conductivity, arrange in low to high order from left to right. The gold ring and locking pieces will appear in the position of MID RANGE. The silver objects will appear in the right. In the neutral soil, the discrimination indication is more accurate, while in the mineralization or saline soil, the discrimination indication will have various degree of deviation.

The above discrimination is just a reference, it is not full accurate.

The depth indication is accurate for coin-sized objects. Large objects and irregularly-shaped objects will yield less reliable depth readings. If you sweep at the same place for several times, and show the same depth, then it is a more accurate

detection.If the depth indication varies,try to change the sweeping angle.There may be more than one target present.

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 present.Not to eliminate the precious metals.

8. The use of the non-motion mode.

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 saline region,and in the places where there are too much interference,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 no 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 has no indication.	1.Be surer that the batteries are installed correctly. 2.Be sure that the "UP" of the battery

	<p>cover is upward.</p> <p>3. Replace the batteries.</p>
Sound a successive “DI” “DI” tone	1. Make sure that there is no other metal detector operating around.
Sound an irregular tone, or the target identification cursor chatters.	<p>1. Don't use it indoors, because there is many metals there.</p> <p>2. Make sure whether there is electromagnetic interference sources, such as power lines, cables, electronic fences and so on. Keep away from these areas, or try to reduce the sensitivity.</p>
The signal is instable, and the position of the target identification cursor change.	<p>1. Sweeping as a different angle, in order to determine whether you can get a more stable signal.</p> <p>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.</p> <p>3. Maybe more than one metal targets buried there, you could try to increase the sensitivity or set different discrimination range to sweep.</p> <p>4. Maybe you find a severe oxidation target, or the ground is serious magnetic, you should try to decrease the sensitivity.</p>
Using PINPOINT, when the search coil approaches the ground, the unit will sound a tone.	<p>1. The surface is severe magnetic, you need to do the ground balance adjustment, or you should press the PINPOINT button again to reduce the sensitivity.</p> <p>2. There is large metals under ground.</p>

PART LIST

NO	ITEM	QUANTITY	NO	ITEM	QUANTITY
1	Battery cover	1	15	Rubber button	1
2	Battery compartment	1	16		
3	Battery compartment pressure plate	1	17	Panel	1
4	Screw ST3x8F	2	18	PVC	1
5	Cover	1	19	Aluminum tube	1
6	Rubber ring	1	20	Gear liner dentate circle	1
7	Screw ST3x18F	2	21	No gear liner dentate circle	1
8	Casing	1	22	Pipe covering	1
9	LCD	1	23	Connecting rod	1
10	PCB	1	24	Handle	1
11	Pad	1	25	Triangle fasten knob	2
12	Screw ST2.6x6F	2	26	Disk knob(screw)	1
13	Screw ST3x6F	2	27	Search coil	1
14	Speaker	1	28	Disk knob(nut)	1

