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Mole Prospector

Operation manual

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PLEASE READ THIS
BEFORE USING THE DEVICE

- This device is specially designed by our experienced engineers to detect long time buried targets.

- Do not operate the device in residential buildings or near sources of tension. Thereby, the device will be disturbed and the electronics is likely to fail.

- Use the device only as intended for long time buried metal objects.

- The device cannot detect metal objects buried at present since the object is required to be buried in the ground for a certain period of time (years) to form a field around it.

- **IMPORTANT**: The device works only in direction from east to west or vice versa. Use a compass for proper work. If the device is oriented from north to south or vice versa, it will hardly detect a signal or the signal will be very weak, as the device is not sensitive in this position.

- Any demonstration or test for detecting treasures buried at present is misleading because the operating principle of the device is different. So, please rely on our experience and do not make such trials.

- Protect the device against powerful shocks as the electronics and the detecting part are calibrated for maximum accuracy.

- Do not clean the frame with aggressive detergents. For the purpose, use only a damp cotton cloth.

- Do not expose the device to direct sunlight for long periods of time, if not in use.

- Read the operating instructions carefully to gain the experience needed for proper use.

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INTRODUCTION

This is a new and unique system, having sound and LED indicators, for distant detection of objects buried long time ago.

It is suitable for:

- ✓ gold prospecting
- ✓ detection of ornaments and other highly-conductive metals (such as gold, silver, copper, bronze)
- ✓ detection of large amount of many small jewels
- ✓ detection of gold-sand and nugget deposits in rocks and underground
- ✓ detection of buried treasures;
- ✓ industrial purposes (detection of pipes and voltage or non voltage cables);

All metals specified above form static electric field around themselves that can be detected from the ground. Detection distance varies according to size, conductivity, depth and period of stay underground. Metals with high conductivity, such as gold and silver, are detected more easily since they form larger electric field and the device can locate them from a distance.

The maximum tested depth of detection is 6 meters and the distance when a signal is audible – about 15-20 meters before the point of the buried object, but, theoretically, it could be more, depending on the factors described above.

Operation details:

The earth is constantly being bombarded by powerful radio frequencies transmitted by the military, satellites, radio, and lightning. These broadcasts induce electric currents in underground conductive bodies. Induced currents produce secondary electromagnetic fields, which can be detected at the surface, through amplified deviations of the normal very low frequency field.

The electrons from an electromagnetic field also travel in a detectable wave front from a distance.

The highest reading over a target visibly stands out from neutral ground.

FEATURES

- LCD indication:
- signal level indicator – from 0 to 100%
- battery level indicator
- Very clear sound signalization
- Precise control
- Power button
- Backlight button
- Headphone input
- Red low-battery indicator

• Green LED light indicating when the charging adapter is switched on, with automatic switch off function

• Continuous operation: 80-100 hours

• Built-in rechargeable batteries - 7x1,2V NiMH = 8,4V (2500mA)

• Charging adapter -

input: 100 to 240V 0,5A 50-60Hz

output: 12V/1A

• Headphones

• Weight: 800 g

• Body length: 350 mm

CONTROL BUTTONS

- BACKLIGHT – turns on and off the display light.
- CONTROL – changes the sensitivity of the device.
- POWER – turns on and off the device.
- GREEN CHARGE indicator – shows the beginning and end of battery charging.
- PHONES jack – the device switches from speaker to “headphones” mode.
- LED LOW BAT indicator (red) – shows battery condition.
- CHARGE input (built into the bottom of the handle) – by using the charging adapter from the kit and this input, you can charge your device.
- LCD display – shows the battery condition and signal level in %.

PURPOSE AND OPERATION

You can use Mole Prospector in the fields of archaeology, construction, power and water supply, ecology, agriculture, for army purposes, etc.

It is an electronic device that is successfully used for detecting non-ferrous metals, plastic and ceramic containers stayed long time ago underground and formed electrostatic fields around themselves.

The principle of operation of the device is based on the formation of electrostatic fields around non-ferrous metals, buried deeply and long time ago

underground. These secondary fields are detected by the sensitive instrument and are converted into sound signal which is monitored by the operator.

USE / METHODS OF DETECTION

Hold the device horizontally and turn it on by pressing the POWER button (see the photo).

horizontal method

IMPORTANT: The device works only in direction from east to west or vice versa. Use a compass for proper work. If the device is oriented from north to south or vice versa, it will hardly detect a signal or the signal will be very weak, as the device is not sensitive in this position.

Before use, it is desirable to hold the device in this position for about 2-3 minutes until it stabilizes thermally.
After that, turn the CONTROL potentiometer until the background sound rises to the sensitivity needed by the operator (the best control position requires experience).

If it is assumed that in front of the operator a non-ferrous metal is buried, the device should be held horizontally and the operator must move slowly ahead until he hears the highest sound and the display shows the highest value in %.
In this case, the assumed object is located under the front edge of the device.

With the device you can search either horizontally or vertically. When searching through the horizontal method, the sensitivity of searching is higher and the signal is heard just before you are on the actual point of the object. When using the vertical method, the sensitivity is lower, but the accuracy in locating the exact location is better.

vertical method

The operator must follow the following steps:

First, they should draw a random field with size 10 x 10 meters consisting of lines at a distance of 50 cm from each other (this is only an example; in real conditions the field can be 20 x 20 meters or more than 1 meter).

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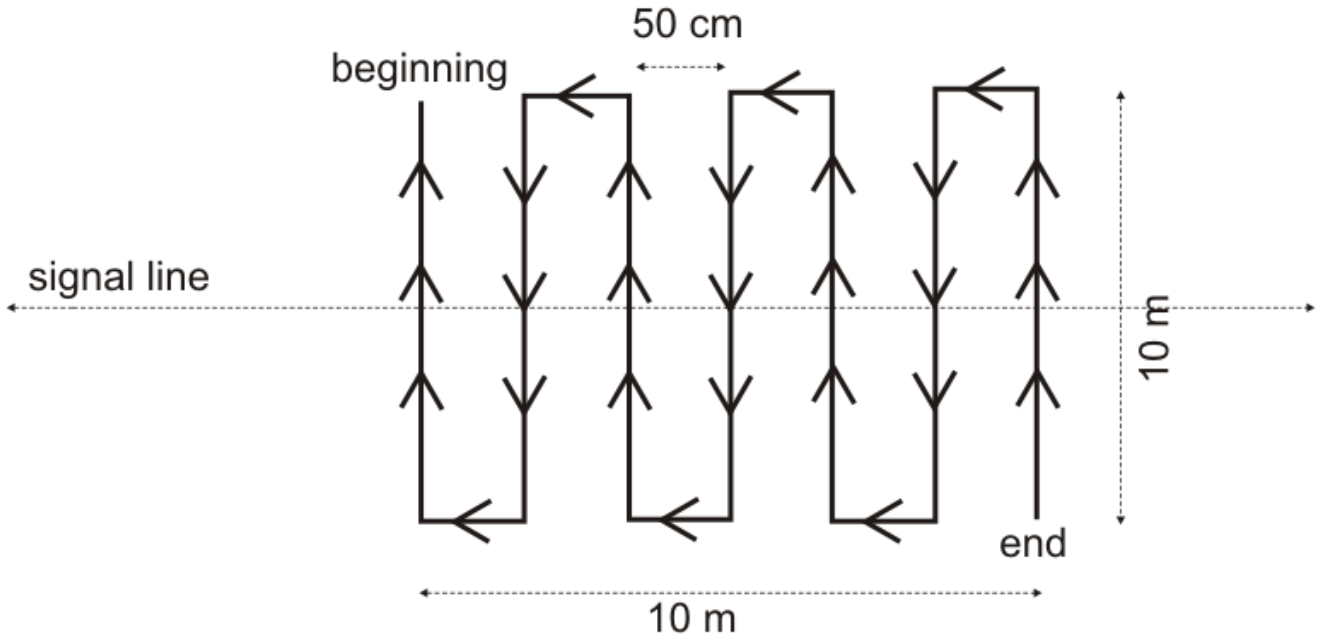
Example:



Initially, the operator should hold Mole Prospector horizontally and move forward following the lines.

horizontal method

When the first tone is heard and the indicator on the display begins to change its level in %, it specifies the beginning of the signal. The operator should walk ahead until the display shows the highest value (e.g. 65%).

If the highest value is omitted, the operator must walk backwards for more accurate and precise value determination. At that moment, approximately, the object sought is located below the front edge of the device, but, thus, its depth cannot be determined. A vertical measurement should be done for precise location of the object and its depth.

This is specified in the section: **OBJECT DEPTH AND LOCATION DETERMINATION**

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OBJECT DEPTH AND LOCATION DETERMINATION

The operator has to move before or after the line of the horizontal signal detected, depending on which side they prefer to start the measurement, and then to turn the device vertically and close to the ground (see the photo).

vertical method

IMPORTANT: The device works only in direction from east to west or vice versa. Use a compass for proper work. If the device is oriented from north to south or vice versa, it will hardly detect a signal or the signal will be very weak, as the device is not sensitive in this position.

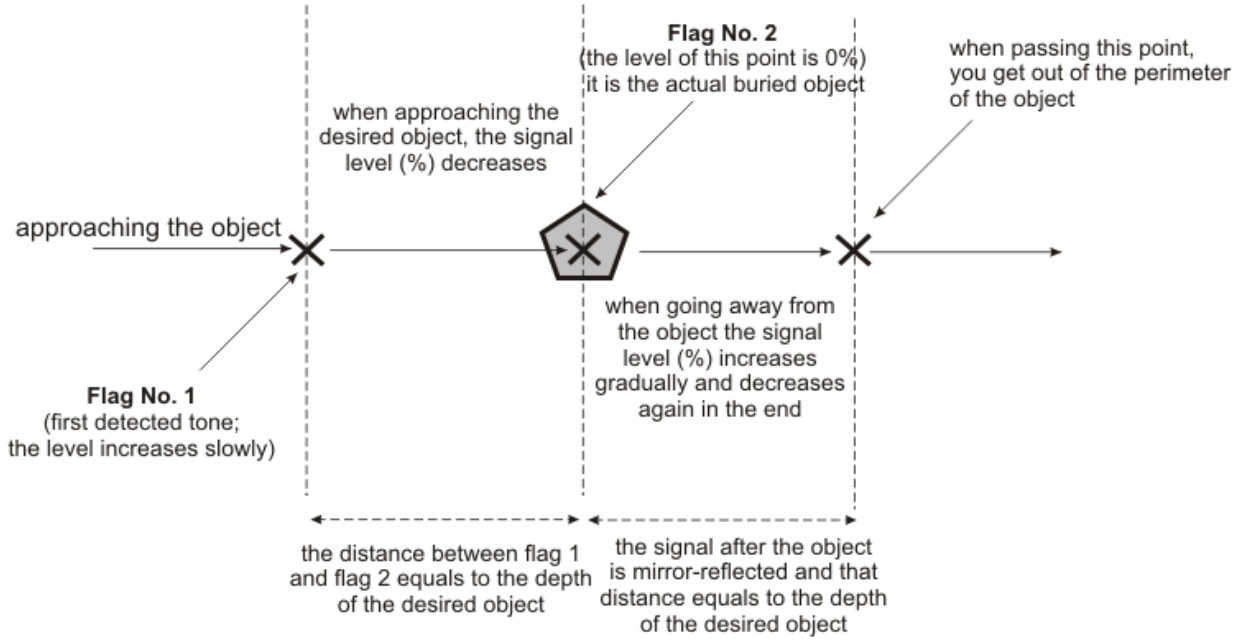
When moving slowly forward to the signal line, a sound begins to be heard through the speaker (or the headphones). Put a flag on this point. When continuing further ahead, the signal level and the indication in % begin to

decrease. And when the device is exactly on the desired object, the sound disappears and the display shows 0%. Once the operator passes this point, the level of the signal starts to increase gradually again and decrease at the end of the signal. Therefore, the operator must return a little backwards to determine the perfect location of the object where the signal level is 0% and no sound is heard.

A second flag is to be put on this point, being the location of the buried object (or a part of it if it is a long object).

Similarly, the other points of the object should be determined, if it is a long one.

The distance between the two flags is the depth of the desired object.



This vertical searching method is used for final object location. The possible deviation is from 3 cm to 5 cm away from the centre of larger objects.

SIGNALS FROM OTHER OUTSIDE SOURCES

In the event of short and random signals in the device, it is necessary to reduce its sensitivity. Turn the CONTROL potentiometer anticlockwise until the interference stops.

Sometimes, in the presence of strong electrostatic fields from various sources, it is possible to hear a sound from the speaker (or the headphones) and see the sound level on the display, no matter what the sensitivity is. In such cases you will need to make a short break (several or ten minutes) until those fields fade.

LOW BATTERY INDICATOR

In normal working condition and charged batteries (voltage around 10V), the red LED LOW BAT indicator is off, and the display shows the battery voltage in V. When the voltage of batteries reduces, the LED indicator starts (below 7,4 V).

BATTERY CHARGING

Mole Prospector has built-in NiMH batteries that can provide continuous operation for a minimum of 80-100 hours. Batteries are charged by using the included adapter. For that purpose, plug the adapter jack into the CHARGE socket underneath the handle, then plug the adapter into the network socket (220V).

When the charging time is off, the processor turns the charging off and the CHARGE indicator stops flashing. After that, plug the adapter out of the power socket and plug the jack out of the CHARGE socket.

MAINTENANCE

After you finish your work with the device, you have to clean the front panel and the box with a soft brush to remove all abrasive particles (sand). You should not use cleaning solvents or other aggressive chemicals!

If you do not use the device for a long time, it is desirable to charge the batteries once a month in order to keep their capacity.

WARNING!

By using this device, you can detect high-voltage cables, plastic pressure plumbing pipes, explosives and other dangerous objects underground.

You should use the device carefully and take all necessary measures to prevent accidents or damages. It is recommended that Mole Prospector is used with other tracking and signal equipment such as long-distant locators or pulse induction devices.

The manufacturer shall not be responsible for accidents or damages caused by customer negligence or failure to follow operating instructions.

Good luck!