Metal and Water Finder

GROUND SCOPE

User Manual

GROUND SCOPE

The newest Underground Metals, Caves
And Tresures detector

Ground Scope User's manual

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Metal and Water Finder

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The operating in high voltage areas would limit the results and performance

It's better to turn off mobile while using the device.

Don't operate two devices with the same method of search at the same place

Don't store in high temperature or high humidity

Any attempt to tamper the device or unapproved maintenance would void the warranty

The operator Must remove any metals that might affect the opreation eg:Rings,watch, belt....

- The user must practice before starting the detecting operations and discoveries
- Store in Cool and dry place 15-40 C 5%-75% humidity

Read & Understand
The User's manual
before using this device

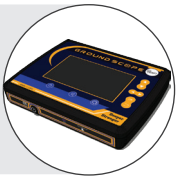
Technical specification

Search system :	1.Live Scan (Live photography in real time 2.Ground Scan (2D&3D Data)
Search principle:	Measuring the intensity of the electromagnetic fields of the earth to detect anomaly targets in the soil like metal, treasures and caves.
Operating processor:	MICROCONTLLER PIC18 & ARM 7
Operating frequency:	8 MHz
Power:	7.4v 3000 mAh
Power consumption:	Maximum of consumption 400 mA
Battery life:	5 work hours
Charger:	10 volt 1 Amp
Display Type:	TFT Color Monitor 5 ” , 65536 Color, 48Mhz , CDMA GPU
Specialized to detects:	Gold ,Treaures, Metal and Voids
Targets Discrimination:	Yes
Depth Search:	Maximum depth for large targets is 14 M
Results feedback:	1.Live Scan graphical data, sound, oscilloscope and signal strength. 2. 2D and 3D imaging data showing the location and shape of the target and depth
Voice alerts:	Yes
Operating temperature:	From -20° C to 60° C

Storage temperature:	From -15° C to 40° C
Humidity:	It can be stored and work in the degree rate of air humidity of level 90%.
Weight:	900 g Main Unit - 2 kg Composite with Sensors - 3.5 kg Full package with Carrying case
Dimensions:	28X21X3.5cm, main unit
Bag dimensions:	42x34x17 cm, Full packege

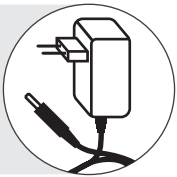
Main Control Unit

The unit is responsible to control the settings and search options.
The batteries were built inside it.
Also,it's responsible to issuing the search acoustic , optical and vibrations results.



Charger

An electric charger to recharge the device's battery
Values: Input: 240-100VAC / 60-50Hz / 0.4 amps
Output: 10 volts AC / 1 amp / 15 Watt.



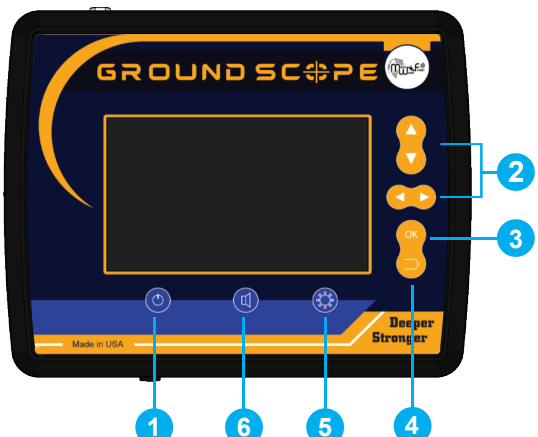
Ground sensor

This sensor needs to connect into the main units for the scanning process

Headphones

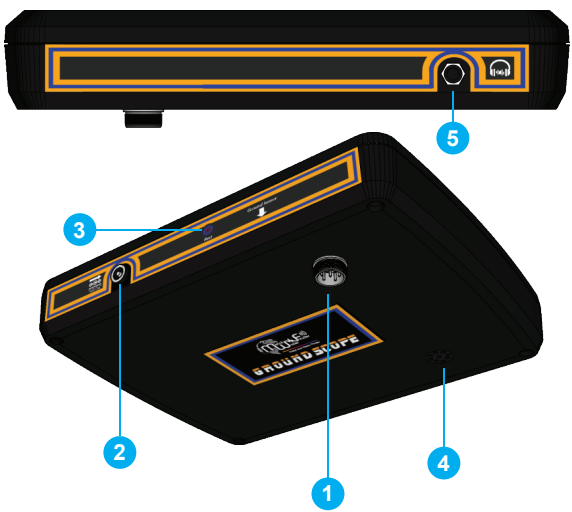
Needs to contact through the headphones jack, who is to the right side of the device.

Front Interface



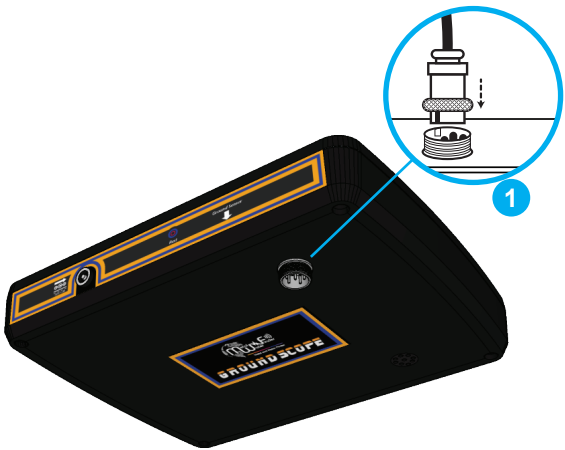
1. ON/OFF Button
2. Move Buttons
3. Enter Button
4. Back Button
5. Brightness Button
6. Sound Button

Back Interface



1. Ground sensor connector
2. Charge Jack
3. Factory reset
4. Sound out
5. Headphones jack

Assembly

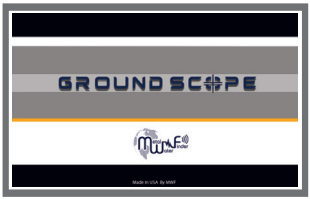


1 Connect the ground sensor to the main unit as shown in the diagram above

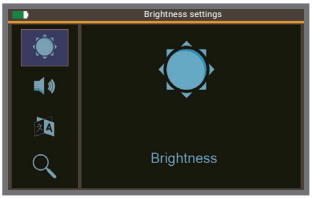
- Turn the device on by pressing the power switch on the front of the device for two seconds

- The device will display the logo screen and go to the main menu

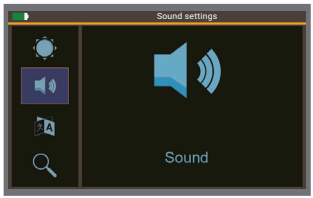
- Use the Move button to scroll through menu options and press the Enter button to confirm the selection
  To return to any position Press the BACK button



To adjust the brightness level
Use the scroll button to move between menu options on the screen to access the brightness icon and press the right arrow to activate the control by pressing the right arrow to increase
To the left of the low brightness and OK button to confirm selection and return at any position press the BACK button



To adjust the volume
Use the move buttons to move between the menu options on the screen to access the sound icon and then press the right arrow to activate the control and is by pressing the arrow to increase
The left to decrease the volume value and the OK button to confirm the selection, and to return to any position press the BACK button



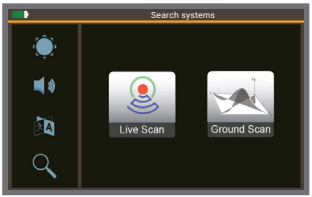
To set the language
Use the move buttons to move between the on-screen menu options to access the language icon and then press the right arrow to activate the language adjustment you can move between the language by pressing the right or left button and OK button to confirm the choice

The device has four languages
Arabic - Russian - Spanish - English

Start searching

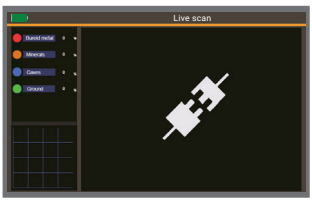
To start the search, select the Search icon from the main menu and press the right move button to access the search systems

The available search systems will appear on the screen: The Direct scanning system and land scanning system



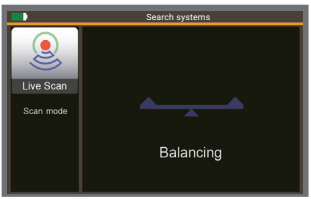
Note:
Before starting one of the two systems, the ground sensor must be connected to its socket in the device as described above

Note:
If the ground sensor is not connected, a message will appear on the screen indicating that the sensor is not connected as shown down

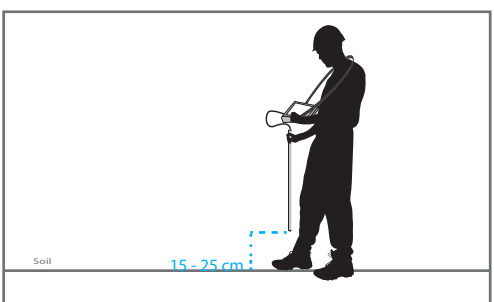


Live scan System

When selecting a live scanning system, we have the balancing interface as shown in the picture



The process of taking a calibration for soil



To start the calibration process you have to press on the search button which is on the side of the ground sensor then the device analyzes the magnetic values of the earth in which the scanning is performed and calibrated by taking several readings of the soil automatically
If the earth is highly magnetic, the calibration process stabilizes the signal
Then the device will be stable and unaffected by the natural magnetism of the soil
During the readings, the calibration balance moves to the right and left

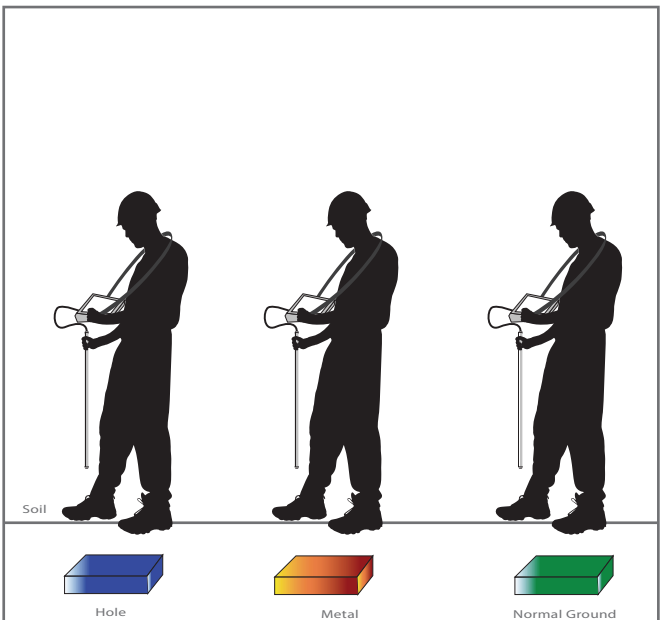
:Note
During calibration, the ground sensor should be moved over an area free of magnetic induction caused by metal parts, electrical equipment, etc. in the vicinity by passing it over several different points in order to accurately adjust the calibration value

At the start of the search, the user must press the button above the ground sensor for the research and then walk and go to the sites to be scanned and scanned through the ground sensor

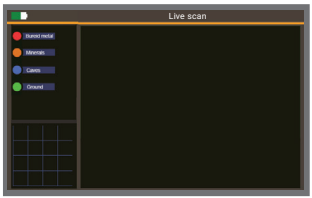
After taking the soil calibration and performing the search and survey, the results will appear on the screen as follows

Note

The button above the ground sensor is used to temporarily turn on and off the search



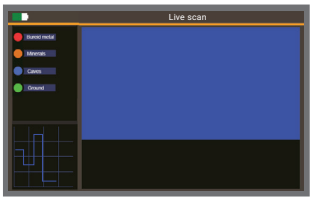
❖ Direct scanning interface



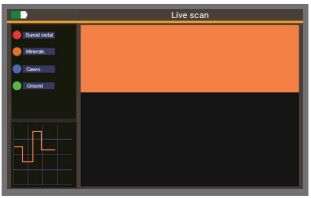
Live scanning system

This system analyzes the read signal and processes it in color simultaneously with time and release alerts depending on the target type . So that the tonality represents the intensity of the signal resulting from the target

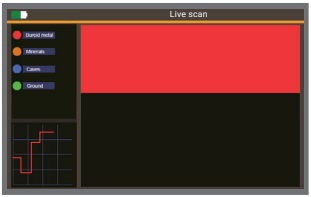
Color sign reflects the existence of holes and caves



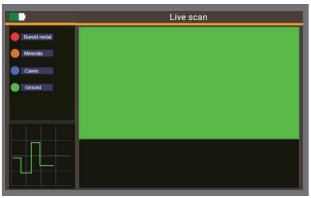
Color sign reflects the existence of mixed minerals



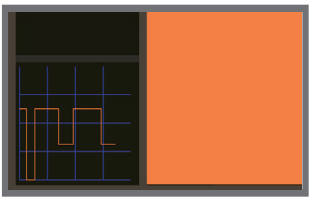
Color sign reflects the existence of The buried minerals



Color sign reflects the existence of normal gorund



The bottom left of the screen is a scanning chart that helps to determine the target size by detecting the beginning and end of the target when you move over the target. The level varies from low to high depending on the target type. Low level for holes and higher-level buried metals

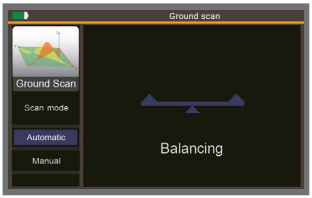


Note:
Soil calibration can be performed during the scanning process by long pressing The OK key to start automatic calibration

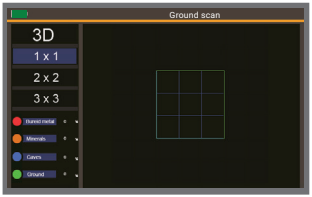
Ground Scanning System

Ground scanning interface

When the ground scanning system is selected, the calibration interface appears and includes the automatic and manual shooting mode selection as shown in the picture



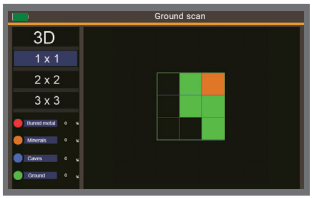
When the automatic scanning mode is selected, the calibration balance moves to adjust and calibrate the device and go to the ground scanning interface so that scan reads are taken automatically at fixed time intervals estimated at the time of the step
The function of the scan button here is to pause the scan and resume it when pressed again and when we select manual mode the same thing of calibration will be done but we . have to press the scanning button every step during the scanning



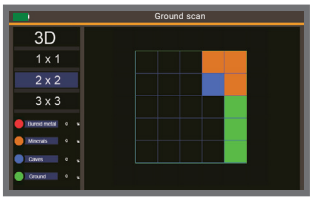
In the scanning interface, there are three search areas
meter 1 x 1
meters 2 x 2
meters 3 x 3
Divide each search area into constant Squares that reflect the search step
The search areas are selected by pressing the up and down buttons and to confirm the selection, press the OK button

Ground scanning interface

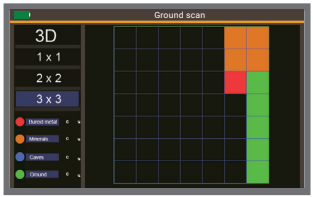
1x 1 scanning interface



2x 2 scanning interface

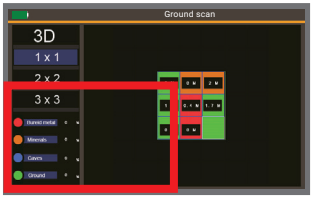


3x 3 scanning interface



Note:
It is preferable to use the search area 3x3 meters in the beginning and then move to a lower search space to narrow the target location more accurately

when we finish the scan , the system processes the scanning area according to high processing algorithms to show the depths of the exposed targets during the scanning which is caves - buried metal - metal mixture - ordinary soil

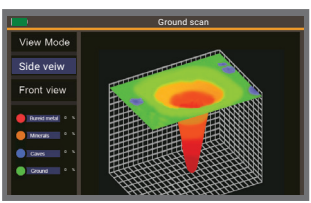


In addition to showing the percentage of probability of different targets within the search area and shown in the left and bottom of the screen

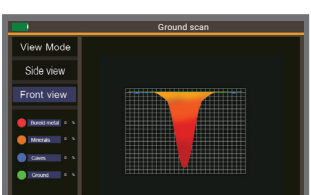
After the values appear for depths the process of analysis of the image of the two-dimensional images to the three-dimensional image begin you have to wait until the analysis box is full and turn the **3**D word to green

❖ 3D dimention display

After finishing the treatment and showing the depths we can see the results in a three-dimensional way by pressing the OK button . So that a three-dimensional representation emerges from the analysis of the two-dimensional search space . There are two modes of flare: a side projection and a front projection which we can move between them by pressing the up and down buttons

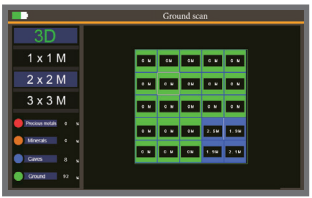


The side projection of the 3D representation, so that the representation shows the positioning of the target within the The side projection of thescanning area

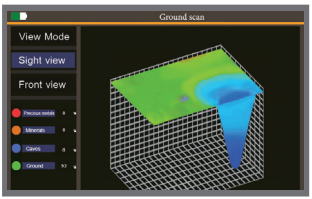


Press the BACK button to return to normal binary scanning mode

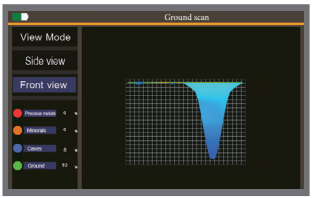
In the attached image an example of a scan with a search area of 2 x 2 M
the scan shows a gap in the bottom right of the scan area



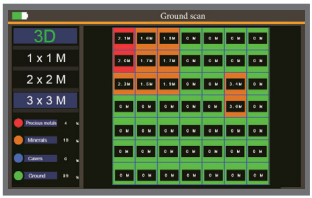
. 3D representation of the scanning process through the side view



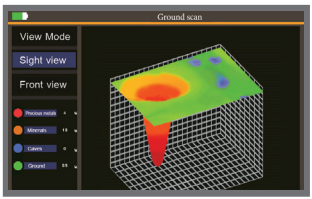
. 3D representation of the scanning process through the front view



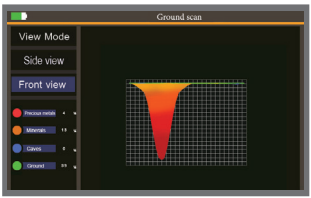
In the attached image an example of a scan with a search area of 3 x 3 M
the scan shows a gap in the bottom right of the scan area



. 3D representation of the scanning process through the side view

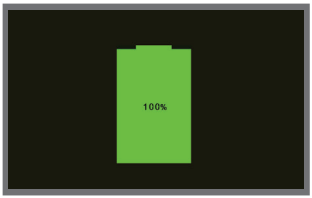


. 3D representation of the scanning process through the front view



When charging starts, the charging screen appears for 60 seconds, then the device turns off .and the charging process continues as shown in the picture

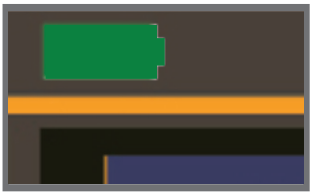
When charging finishes the device will turn on and will show on the screen charging is complete and the device release sound alerts every minute as long as the charger .is plugged in. When the charger is pulled, the device turns off



Warning
Do not keep the charger plugged in when charging is complete to conserve battery

Battery charge levels

battery level 100%



Note:
When the battery level indicator is reduced to red, please recharge the battery and prefer not .to continue working to maintain it

Metal and Water Finder

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