GOLD LEGEND

5 SEARCH SYSTEMS

LONG RANGE | FREE MODE | SMART DEAPTH | IONIC | BIONIC

User Manual

GL-2030

GOLD LEGEND

All in One Device for Gold Detection

GEOGROUND

GEOPHYSICAL GROUND MEASURING

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GEOGROUND

GEOPHYSICAL GROUND MEASUR NG

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Introduction

Starting from the light of the idea in the minds of our experts, passing through the entire planning stages, and ending with the completion of implementation and display...
Our company "Geo Ground" seeks continuously and accurately to develop and update these stages and their fields in the detection of various precious metals and treasures since its establishment nearly 20 years ago.

We always look forward to the distant horizon and the near future, and we confidently and steadily take all necessary steps to provide the best modern technologies and high-quality devices, in order to help all our customers who are eager to reveal their treasures hidden in the ground.

With a full team of experts, we always strive to manufacture and provide the best materials for our devices and design new generations of electronic boards and control units, to suit all users, with a lot of features and technologies with every new launch of Geoground devices.
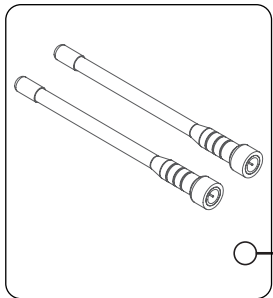
We work in Geo Ground factories with high precision in all stages of designing and manufacturing the pieces that we offer, through all stages of production, ending with presentation and final audited production, to ensure high performance and accuracy in results while searching for your hidden treasure.
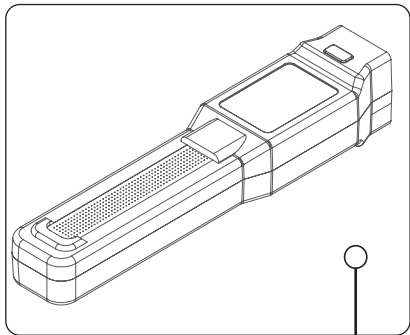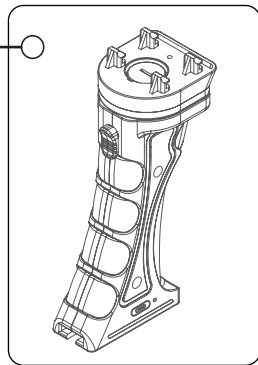
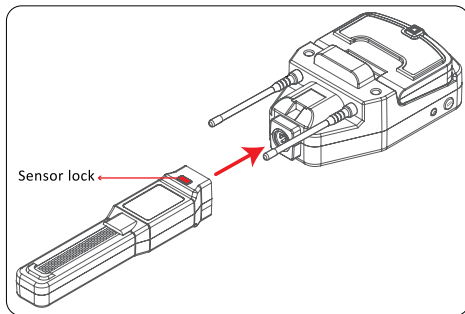**Smart Sensor**
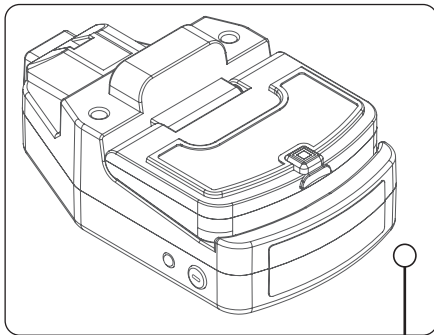
Main Unit

Wireless Handle

Search Antennas

Install the smart sensor into its socket in main unit of the device correctly.

Caution
The Smart Sensor lock button should be on the top side of the main unit.
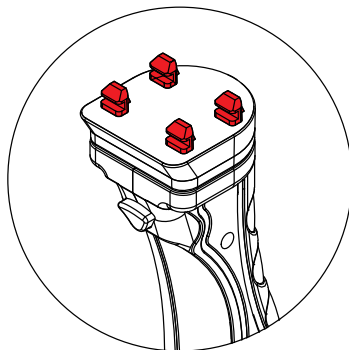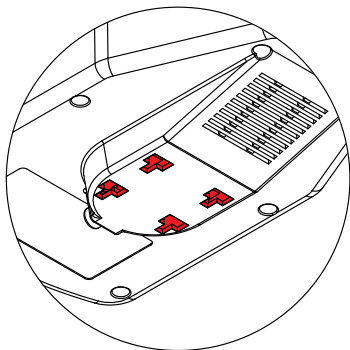

Sensor lock

If the smart sensor not installed on the device, a sensor error message will display on the systems screens Install the smart sensor correctly and restart the device.

Install the search antennas on the device as shown on the side. Then, twist the antennas clockwise until they fit in the designated location on the main unit.

Clockwise Rotation Direction
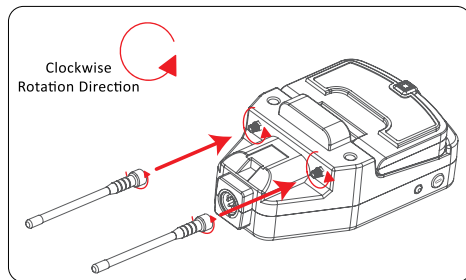
Install the wireless handle unit on the bottom side of the device.

Attention must be paid to inserting the four pegs located on the top side of the wireless handle unit directly into the correct corresponding slots at the bottom of the main unit of the device, properly.

Screen Unit

Light

Laser

Search Antennas

Display Screen

Keypad

Charger Socket
(Type-C)

Wireless Handle
Lock Button

Handle Rotation
Lock

Smart Sensor Lock

Smart Sensor LEDs

Charging LED

Start Button

Smart Sensor

Wireless Handle Unit

Handle Charger Socket
(Type-C)

LED Light

Power
Button

OK — okay

Back

Left

Right

Up

Down
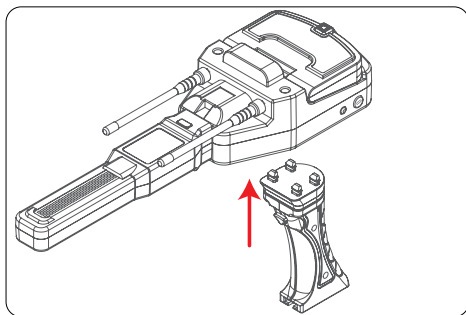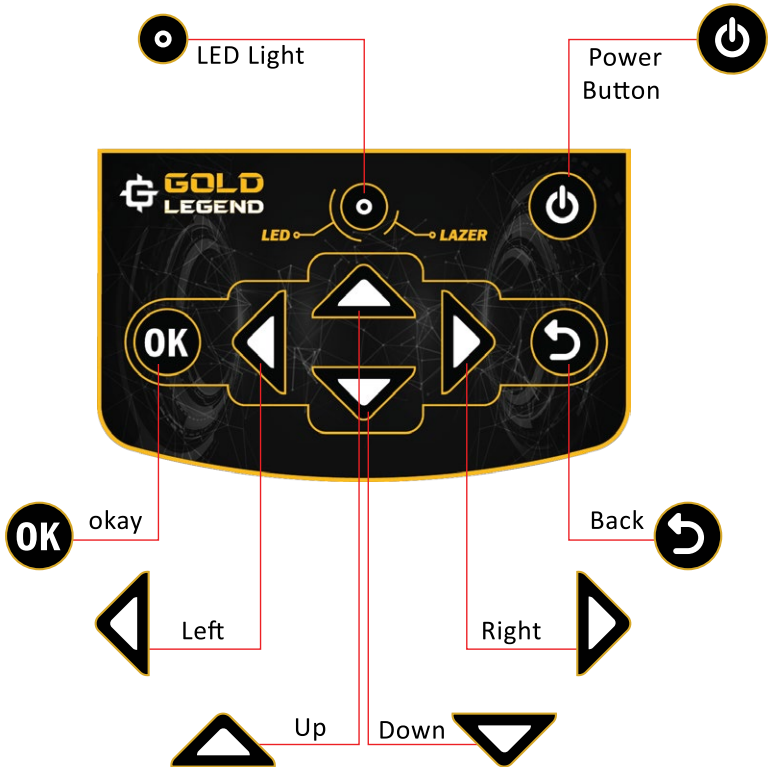
After installing the device, and before starting use, make sure that the device and the wireless handle connected to charging until the color of the charging LED light changes from red to blue
Open the screen unit, and press and hold the Power button. Wait a while for the download to complete. First, you will see the splash screen.

STARTER SCREEN

We strongly recommend that the device be in a flat and horizontal position when operating the device for the first time.

General Sound
LED Light
Laser
Language
Clock
Battery
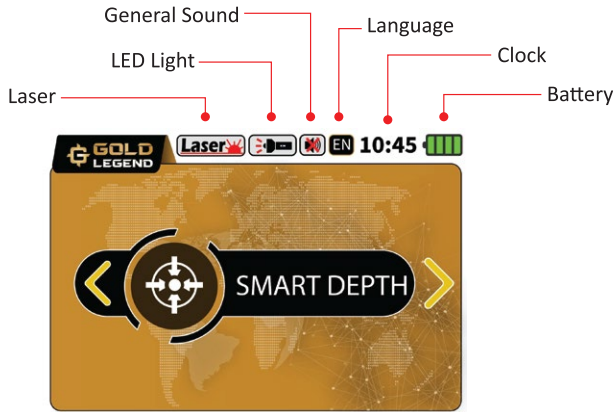
Main Menu

Laser status, which can be turned on by pressing and holding the Laser button on the keypad, The laser will also automatically activated when searching through the "Bionic" system.

LED Light status, which can be turned on or off by pressing the LED button.

General Sound status, which can be controlled in the device settings.

Language, The symbol of the language used in the device will show here, as device program comes in eight international languages, which we can also change from the device settings.

Clock status, which user can adjust from the Device Settings.

Battery status, which displays the current charging level of the device battery.

Gold Legend GL-2030 device from Geoground Company contains 5 different search systems, which are listed below.

1. Long Range System
2. Free Mode System
3. Ionic System
4. Bionic System
5. Smart Depth System

After turning on the device, you will see the main menu screen as in image below.

You can navigate to the next system using the Right/Left arrow buttons on the keypad.

⊕ Long Range System

The device rotation around the electronic handle feature developed to accommodate various uses for all device systems
 In the "Long-Range" system, when the device detects frequencies of potential targets, it rotates around the electronic handle towards the designated target
Install the wireless handle, antennas, smart sensor, and signal boosting dish in the device, making sure to unlock the wireless handle lock.

First: System Selection
Select Long Range system from the main menu and press OK to enter the system. The system screen, which includes the system settings, will show to us, as shown on the side.
User has to adjust all settings based on search area and target to get better scanning result.

From here, you can set the "Soil" type, "Target" type, Max "Distance" and Max "Depth" using these settings.
Use the Up/Down arrows to switch between tabs.

Target:
In this section, the user has to select the type of target he is looking for in the surrounding area.
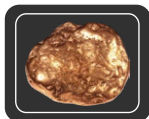Selecting the correct target causes the device to focus only on that selected target and perform the search based on the settings chosen in this systemGold Legend device designed to search for 11 different types of targets.
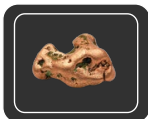
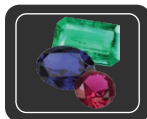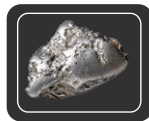|					
Bronze	Cavities	Copper	Diamonds	Gemstones	Gold Ore
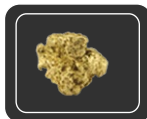
Gold Treasures	Gold Veins	Iron	Platinum	Silver

Use the Left/Right arrow keys on device keypad to change the type of target you want to focus your search on.

Soil:
In this section, the user must select the soil type of the desired area before completing the settings and starting the search process.
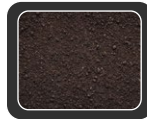

The device designed to work in seven different types of soil.

High Mineral   Low Mineral   Normal   Rocky

Sand   Stony   Wet

Use the Left/Right arrow keys on device keypad to change the type of target you want to focus your search on.

Distance

Gold legend device has a detection capacity of up to 3000 meters from the device's location

From this section, the user can search for all possible targets within the range he defines (from 1 meter to a maximum of 3000 meters)

Use the Left/Right arrows on the keypad to change the desired distance

By long pressing the Left/Right keys, the values will change faster

Depth:
Gold Legend device has the ability to detect targets up to a depth of 40 meters underground, and this feature will enable the user to search for all possible targets to this depth.

Use the Left/Right keys on the keypad to change the desired depth.

Search:
After selecting the desired settings, use the Down key to go to the search section. On this page, you can see all the settings that you previously selected in the previous sections.

By pressing the OK key on the keypad, the search screen will be displayed.. Continue to the following pages to explain the details of the search screen.

After completing the initial settings, and entering the search screen, a warning window will appear to us, as shown below
Press the OK button on the keypad or the Start button on the top of the wireless handle to start calibration and enter the search screen.
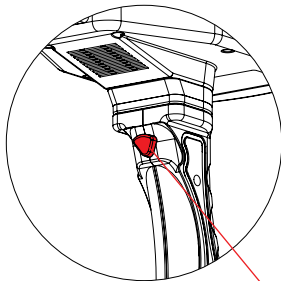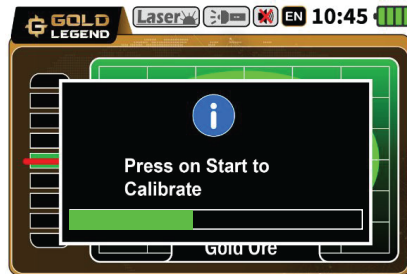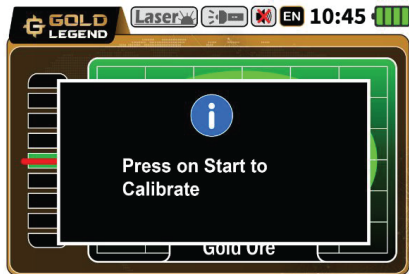
Note:
To reset the calibration, press the start button on the handle and wait 5 seconds for the reset process to complete.

Start Button

After completing the initial settings, and skipping the previous warning, the search screen will appear
Screen Description.
Search Screen:This screen shows us within the large box the ongoing search process according to the previously selected settings.
Balance Indicator: This indicator shows the balance of the device in relation to the direction of the horizon. To get a better result when searching, this indicator (red line) should be on the green line in the middle.
Selected Target: In this box, it display the target type, which selected previously in the system settings.

Search Screen

Balance Indicator

Selected Target
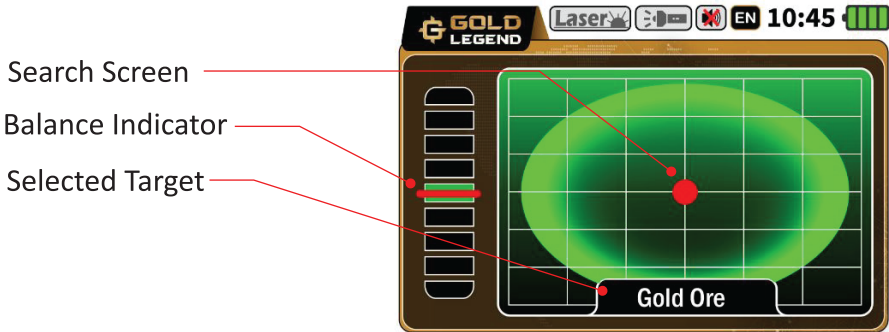
**1: Search Method According to Zigzag Path If Device Does Not Rotate:** In the case of the initial or normal search, that is, when there are no targets or signals picked up by the device in the current search area, we must always advance according to the Zigzag path, in order for the device to capture and analyze as much signals as possible in all directions of the surrounding area.
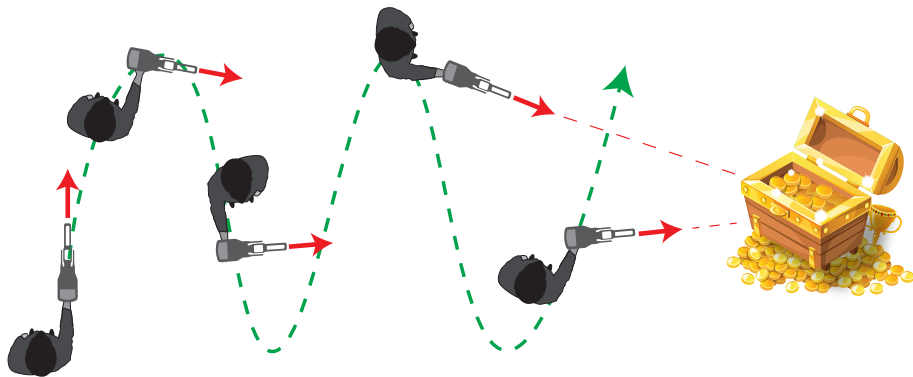
We always recommend starting from the northern region of the target search area. Until the device begins to rotate on its axis. Then the user must follow the method of determining the target area, which we will explain in next paragraph.

2: Determine Target Area if Device Rotates

Suppose that we are now advancing in the search area specified by the winding path (Zigzag), and at some point in this path, the device begins to rotate around its axis to the right or to the left.

Then user here must advance following the direction of the device's rotation always, and then we will notice that the device leads us to a point or a certain direction.
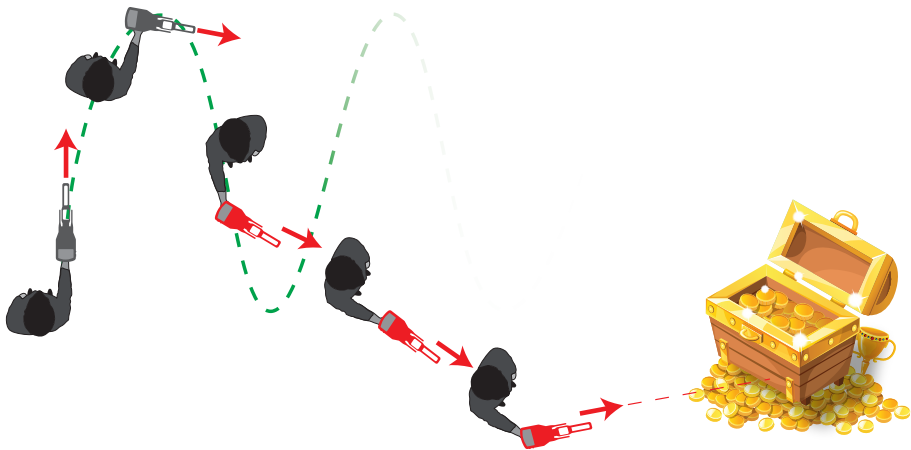
We keep following the direction of rotation of the device, until the device begins to rotate around its axis for more than 90 degrees
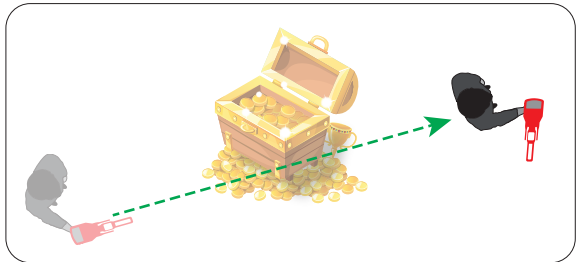Then we mark this point.

We go back in the opposite direction and slowly until the device rotates around its axis again for more than 90 degrees, we put a mark at this point as wellWe repeat this process from different directions of the search area and mark each point where the device rotatesWe will notice that it has begun to form a rough outline of the target area We will notice that the device always rotates towards a specific point or area.
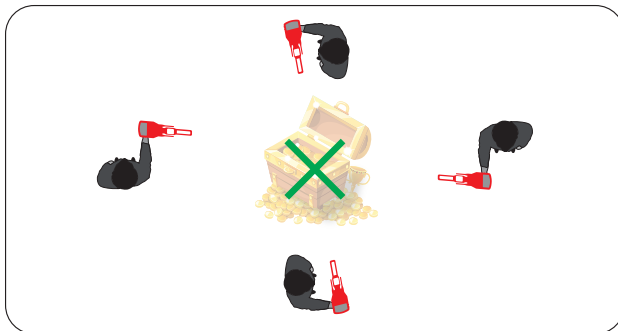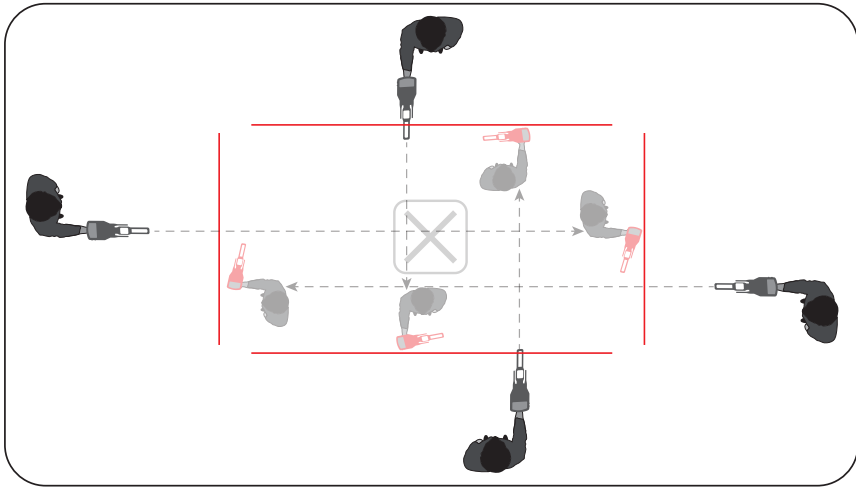
We move away a little from the drawn area (marked area) and start heading from the north side towards it, and at every point where the device rotates for more than 90 degrees, we draw a new transverse line. We repeat this process from the four sides of the target area; we will see that a square or rectangular shape has begun to form for this area, Let us say this region is (X).

We follow the next step (the process of verifying the target area) to make sure and limit the target area more accurately.

3: The process of verifying the target area:
We start moving from the area (X) a few meters towards the north, and define a new point (A), and then we advance from the right and left of this point towards the area (X).
If the direction of rotation of the device in both cases is towards the area (X), then this means that the area (X) is the possible area for the presence of the target.
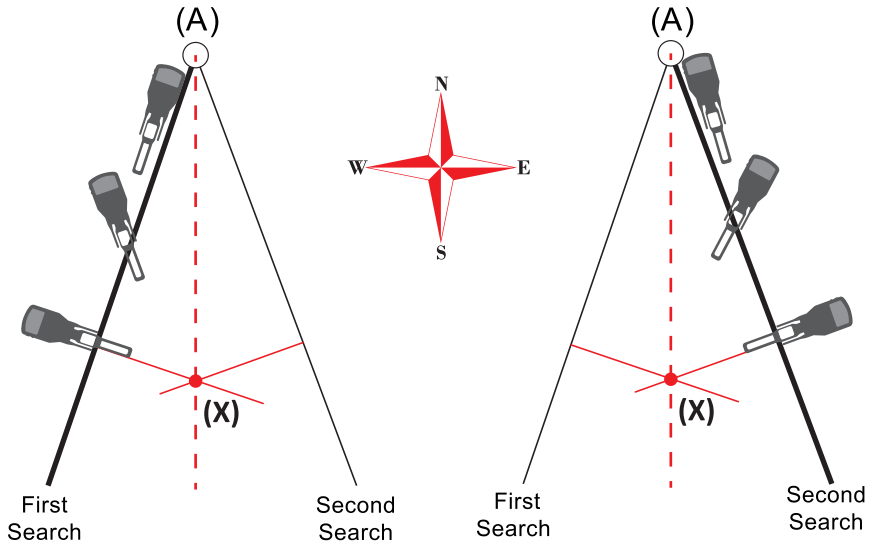
In order to limit the target area more correctly, we repeat the previously mentioned process in more than one different direction for the potential target area (X).
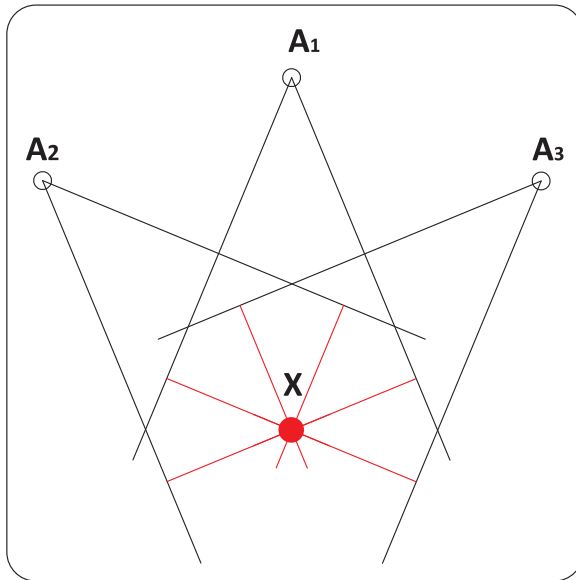
We always recommend that we proceed as slowly as possible while researching this situation.

⚙️ Free Mode System

Free Mode system in the Gold Legend device is similar to the principle of operation and technology found in the Long-Range system However, in this system we can specify an accurate value for the required search frequencies, to match a specific type of metal that we want to search for, in order to obtain more accuracy during search for specific minerals or specific targets. **Install the handle, antennas, smart sensor and signal booster dish into the device, With the need to unlock the wireless handle lock.**

Select the free mode system from the main menu and press the OK key to enter. Here we can customize the frequency value that we want precisely, instead of choosing the target type from the automatic list as in a long-range system.

We complete the remaining settings (such as the type of soil, the maximum distance and depth of the desired target) as in the long-range system, and start the search according to the Zigzag path also mentioned in the long-range system.

The way to search and adjust the settings in the free mode system is the same as in the long-range system, except for the option to select the frequency.

Here in the free mode system, the user can customize the value of the frequency he wants very accurately that is, the user must select the frequency he wants from the Frequency option, instead of choosing the target type from the automatic list in the long-range system.
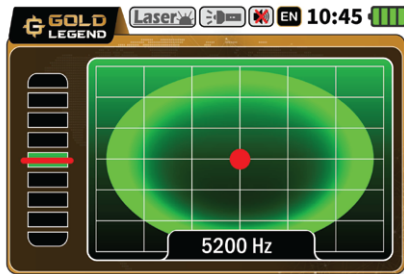
Search Screen

Free Mode System Settings

From the system settings, in addition to adjusting the frequency, we can also set the soil type, maximum distance and the maximum depth of the desired target..

Use the Up/Down arrows to switch between system tabs.

⊕ Smart Depth System

Geoground, after a long period of research and using highly intelligent algorithms, was able to program and operate the new Smart Depth system. This system is able to calculate the approximate depth of a buried target with excellent accuracy.

The smart depth system in Gold Vision device is a unique system, through which the user can calculate or estimate the depth of targets buried underground accurately.

This done by using a specific method that includes the user's movement starting from the "approximate target location", moving in two different directions, and waiting for the antennas to move more than 70 degrees in each time , then the device will estimate the potential target depth value based on that.

After completing the search using the previous systems (Long-Range and Free Mode), we mark and define the shape of our previously drawn area. Then we mark the center point of the selected target area, that is, so that this point is in the middle of the target area.

We are going to use this system to calculate the approximate depth of the target below this point.

Install the handle, antennas and smart sensor into the device, and do not forget to unlock the wireless handle lock

> **Note**: If the Smart Sensor not installed on the device, a sensor error message will display on the screen Install the smart sensor correctly, and complete the search
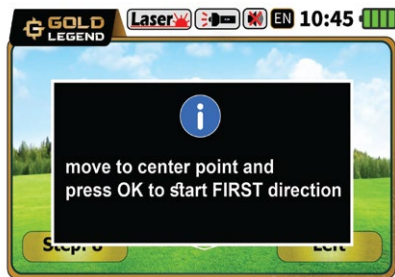
First: After entering the system screen, a message will appear asking you to stand over the central point of the target, we stand over the central point of the target and press Start button on the handle. We wait until the loading is completed, and we make sure that the device properly balanced, that is, in a flat and horizontal position without tilting to any side.

Second: A message will appear indicating that we should proceed in the first path. We start moving forward towards the corner of the first path, and as we move forward with each step, we will have to press the Start button on the handleWe will notice in the corner of the screen the number of steps we have taken and the direction of the path we are taking

Every path we take ends when the device starts turning left or right on its axis
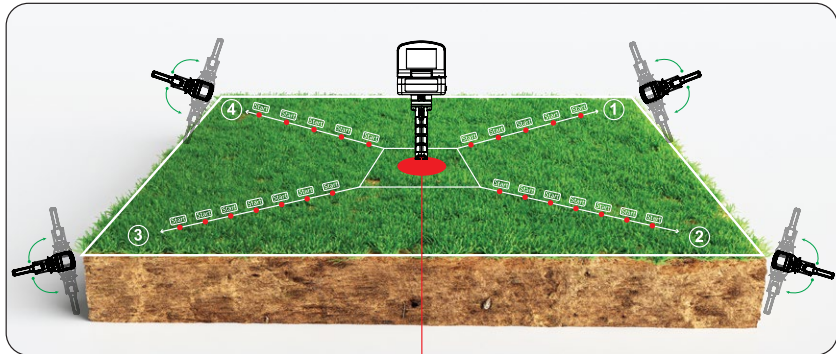
[Starting Point (Central Point of Target)]

User should pay attention to make the movement paths always in clockwise direction, that mean we start from direction number 1 then 2 then 3 and end with last direction 4, as shown in figure

Third: When the device is turning its direction, a message will appear to us stating that we must return to the central target point
We return to the central point of the target, and press Start button on the handle to start the second path
We follow the previously mentioned steps in the second path, followed by the third, and finally the fourth path
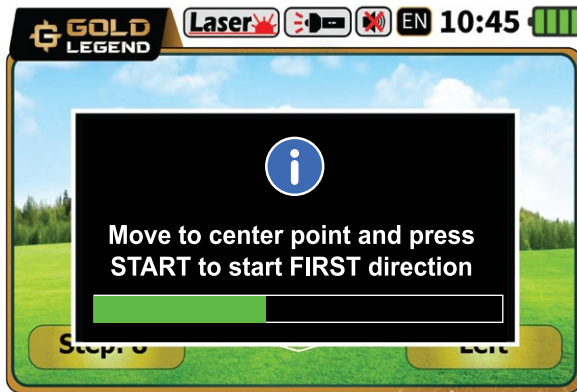
Note: When progressing in any of the previous paths, we must always remember to press the Start button on the wireless handle once with every step we take in the specified path
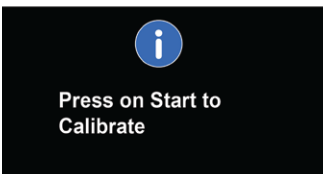
After completing the four paths, a message will appear indicating that we have success-fully completed all paths, and we can now know the approximate depth of the buried target.

We press the start button or the OK button from the keypad, and after a few seconds, the device will start calculating the depth of the buried target and display the result of the approximate depth of the target at the bottom of the screen, as shown in the picture below.

Note: The calculated depth in the Smart Depth System is an approxi-mate and estimated depth.
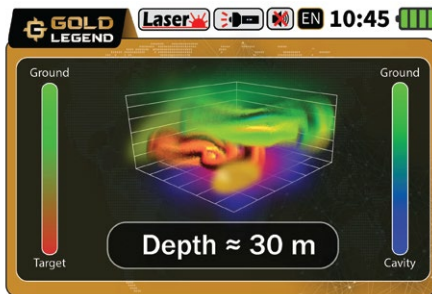
We also point out the importance of balancing the device after completing each path we take, in order to obtain a better result for the depth of the target.

Ionic System

Ionic search system developed according to a completely new technology, which is the first of its kind in metal detectors, and represents a great improvement over the traditional system that existed before.
The new technology allows for a more accurate detection of ionic fields resulting from metallic targets buried underground, ensuring accurate signal reception and processing in the device.


The emanating ionic fields from the potential targets detected by using Smart Sensor, a special purpose probe with new technology designed to allow accurate detection of ionic fields, the probe installed in special port on the front side of device main unit.

When selecting the ionic system in the device, the device will show us on the search screen two-progress bars.

The first at the top reflects the signal strength coming from a metallic target such as gold or iron, and the second bar at the bottom shows us the signal strength resulting from an underground void such as a tunnel, grave or some gap.
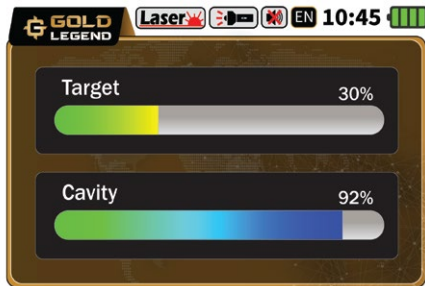
Install the handle and sensor into its ports, with the need to lock the wireless handle lock.
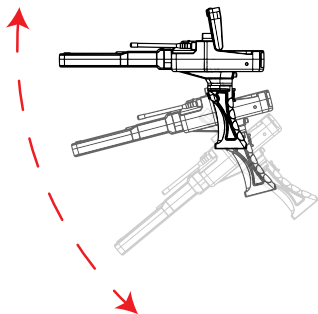

After entering the ionic system screen, the user must press the Start button outside the search area in the opposite direction in which we want to search, in order to calibrate the sensor.

Then we slowly move the device up and down at the same speed, while tilting the device slightly towards the surface of the ground.

The status of the progress bar and the percentage on the screen will change according to the proximity and strength of the captured signal to the target, whether it is an ion target or a cavity (space).
If there is a signal close to the target, the target progress bar will display on the screen the percentage of the signal captured from the ion target.
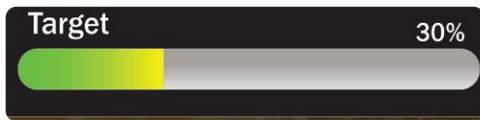
Target Percentage Indicator

If there is a signal that is a cavity or void nearby, the cavity progress bar will display on the screen the percentage of the signal captured from the nearby cavity.

Percentage Indicator

To make sure the signal is correct, we reset the system by pressing and holding the Start button once, but in a different direction than the one from which the signal was taken the first time.
We repeat this step more than once and in different directions, so if the same signal continues to appear with the same values, it means that the signal picked up by the device is correct.

◎ Bionic System

The Bionic system works in a similar way to the ionic system, but with the difference that here ionic signals are captured from a specific metal object, for example from a gold coin, then the search is directed towards capturing signals similar to metal objects buried underground within the surrounding area.


In the previous ionic search system, the search is random and free, but in the bionic system, the search directed according to a specific target type based on predefined signals.

How to Use:

Install the handle and the sensor into its sockets in the device, and pay attention to lock the wireless handle lock.Point the smart sensor head at the metal target of the type of metal you want to find, and then press Start button on the handle.
Move the device slowly in all directions and wait for the results on the system screen. Repeat this process again to get better results. When this system is turned on, we will notice that the laser light has started to work automatically, and this will help in capturing the signals of the desired target type more accurately.
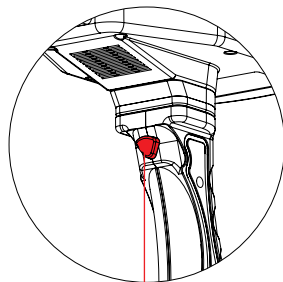
start
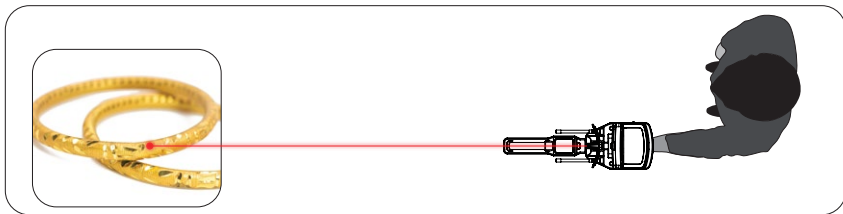
Note: If we want to search for a different new target, we just direct the device and the laser light towards this new target and press Start button, and repeat the previous process again.

Bionic System - Search Process

In the event that there is, a signal close to the search location or a signal similar to the signal captured by the metal whose signal we picked up previously (the sample signal). A red moving circle will appear on the indicator in conjunction with sonic alert (audio tone) indicating that the device has started to pick up the signals and has found the desired target.

When there is no signal to be picked up by the device, only a green moving circle will appear on the indicator, and without the device making any accompanying sound.

To make sure the signal is correct; the user must return to the first metal target and repeat the process again.

Bionic System - Search Process

Settings Adjustment

When you turn on the device for the first time, the Language settings screen will appear; we can choose the desired language for us and press OK, after which the main screen of the Gold Vision device will appear. We can access the device settings from the main menu.
To enter any section of the Settings, we select required setting and press the OK button on the keypad of the device.
The device settings sections are:
Time - Display - Sound - Language – Info

Time:

We can use this section to set the device's clock time. To change the time, press the OK button on the keypad once to move to the time section, then the hour number will change to red, use the Up and Down keys to change the hour.

To move to the minutes pane press the right key, and use the Up and Down keys to set the minutes value.

Display

In this section of the device settings, you can see settings related to the screen such as sleep mode, screen brightness, and smart sensor LED light.
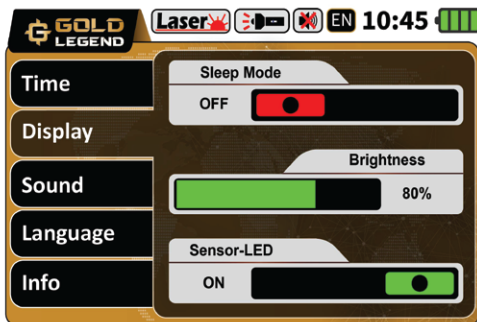
Sleep Mode

With this option, the device screen will go to sleep mode and turn off if the device not used for one minute, to turn the screen on back again, press a key on the keypad.

To turn the Sleep Mode option on or off, we press the Left / Right keys on the keypad.
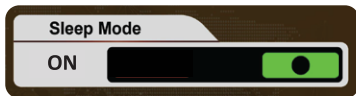
Brightness

Use this option to adjust the screen brightness level.

Sensor - LED

By turning this option on, the LED light indicator of the Smart Sensor will be turned on during the search, as the user can see the search results and visualization of the multiple device systems through the changes of sensor LED light color.

The red light indicates the presence of metals of different types.

The blue color related to the presence of voids or cavities in the search area The green color indicates the normal state of the search (normal ground).

Sound

In this section, the user can control the volume of various sounds made by the device, such as the general sound of the device, the sound of keypad clicks, and the sound issued during scan.
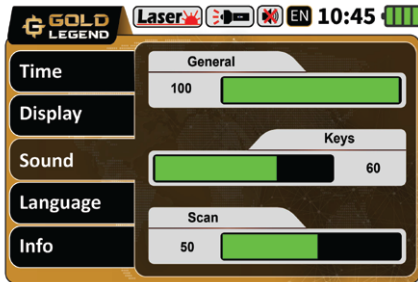
Language

The device user interface is available in eight languages:
English - German - Spanish - French - Russian - Italian - Arabic - Persian

We can change the language of the device, after entering the language settings section, using Left/Right arrows of the keypad.

Info:

In this section, the user can see the complete information about the device.
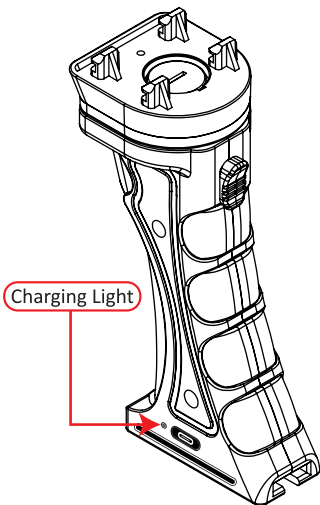

After finishing adjusting the settings, we can go back to the main menu by clicking the "Back" button on the keypad.

This device is equipped with an RF system for wireless communication between the device and the handle.
After prolonged and intensive use of the device and the handle, the capacity and charge of the handle may decrease.
Here is how to charge the handle.

Charging Light

The charging LED light will be colorless when the handle is in the non-charging state.

1

Chargin Socket

The charging LED light will be colorless when the handle is in the non-charging state.

2
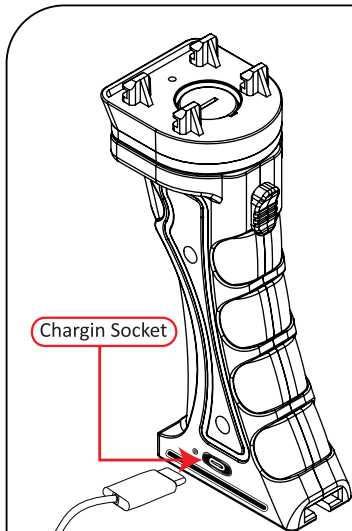
Pay attention to ensure the charging a device handle for a minimum of 5 to 10 minutes before using it.

Charging Light

3 The charging LED light near the charging socket will light red, which means the handle is being charged.

Charging Light

4 The light turns green when the handle is fully charged.
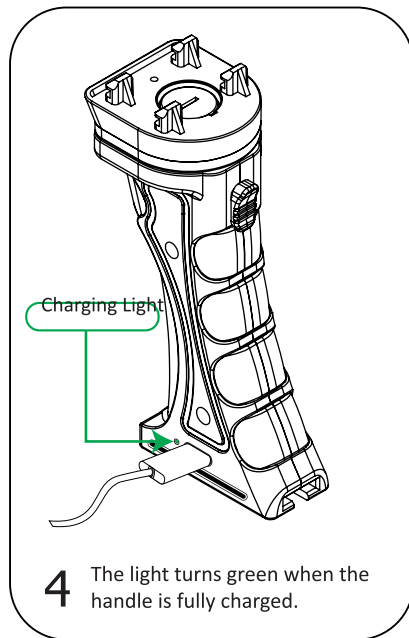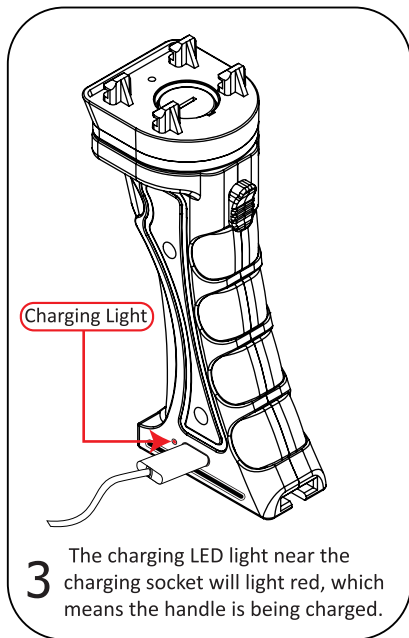
Technical Specifications

CPU	Type	ARM
	Frequency	72 MHz
Memory	Type	SD
	Capacity	2 GB
Screen	Type	TFT LCD HMI
	Size	3.5 INCH
	Resolution	480 X 320
	Color	64 K 65536
	Back Light	LED
Sound	Output	Speaker + Headset
	Jack Type	3.5 mm
	Internal Speaker	3W
Charger	Input	100 – 220 V 50 / 60 Hz
	Output	5V - 2.5 A
Battery	Type	Lithium Ion
	Input	5V - 2.5 A
	Capacity	9600 mA
	Removable Battery	No
Other	Flash LED	5mm
	LAZER	650nm /5mw
	Vibration	Yes
Temperature	Operating Temp	0 – 40 C
Package	Dimension	400 mm X 300 mm X 160 mm
	Weight	3200 g

Important warnings before use

1. Do not install or assemble the device without reading this user manual.

2. No part of the Device may be disassembled or repaired except by Geoground or its authorized service centers.

Any disassembly of the Device or any of its parts by any person or entity not authorized by Geoground; to void the device warranty.

3. Make sure that there are no metals of any kind while using the device.

4. Do not store the device and its components at low or high temperatures for long periods.

5. It is preferable not to use a different charger than the original charger for the device (you can request another original charger for the device in case the original charger is lost).

6. Please protect the device and all its accessories from water, extreme heat and harsh conditions.

7. In order for the battery life to last longer try to charge the battery at least once a month.

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