V2 GOLD VISION




# USER MANUAL

## Model: V2-9500

GERMAN TECHNOLOGY
WWW.GEO-GROUND.COM

7
Search Systems

# V2 GOLD VISION

GEOGROUND
GEOPHYSICAL GROUND MEASURING

## Introduction

GeoGround is a leading German manufacturer and a recognized global leader in the field of geophysical measurement and underground detection technologies. Driven by a vision to completely transform the standard of metal detection worldwide, the company is dedicated to continuous innovation, precision engineering, and uncompromising quality.

For years, Geo Ground has focused on identifying and overcoming the technical limitations and errors that have traditionally challenged prospectors. By combining cutting-edge German technology with advanced research, the company engineer's professional-grade detection systems that deliver exceptional reliability in diverse and challenging soil conditions.

What truly sets Geo Ground apart is its commitment to accessibility and ease of use. The company firmly believes that advanced exploration technology should not be out of reach. By streamlining user interfaces and maintaining affordable pricing without compromising on performance, Geo Ground empowers prospectors and treasure hunters of all experience levels—from beginners to seasoned professionals—to turn their exploration dreams into reality.

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## GOLD VISION V2
## Advanced Multi-System Detection Technology

The Gold Vision V2 (V2-9500) by GEOGROUND is an advanced multi-system detection device engineered for underground exploration. Combining sophisticated electronic technology, intelligent computational algorithms, and integrated sensor systems, it offers a versatile platform for exploring terrain and analyzing potential underground targets.

Featuring seven powerful detection systems, the Gold Vision V2 brings multiple search technologies together in one device, providing flexibility for different exploration scenarios. Its advanced technology is designed to process detection signals, present search information through an intuitive interface, and support target analysis through dedicated software.

The integrated 3D ground scanning system works with the GEOGROUND 3D Analyzer Android application, enabling users to visualize and analyze scanned ground data in three dimensions. Combined with wireless operation, configurable search settings, and a dedicated Smart Depth function for estimating potential target depth, the Gold Vision V2 delivers a comprehensive exploration experience in a single platform.

**GEOGROUND — Engineering Technology for Underground Exploration.**

## WARNINGS

Gold Vision V2 is an is a state-of-the-art electronic device. Don't assemble or operate the device before reading the user manual and don't store the device and its components under extremely low or high temperatures for long periods.

- The suitable temperature for storage is from −20°C to 60°C (approximately −4°F to 140°F)

- Don't immerse the device or its attached parts in water. Don't expose the equipment to extremely humid environments.

- Protect the main unit of the device from the impacts during normal use .

- For shipping, place the detector carefully and safely in the original carton inside shock-resistant packaging.

- It isn't allowed to disassemble or repair Gold Vision V2 except by Geoground company or their authorized service centers.

- Unauthorized disassembly or intrusion into the internal components of the main device unit or other units for any reason, will cancel the warranty.

**Notice**

Do not use the device indoors. The device may constantly give target signals indoors where there are many metals present.

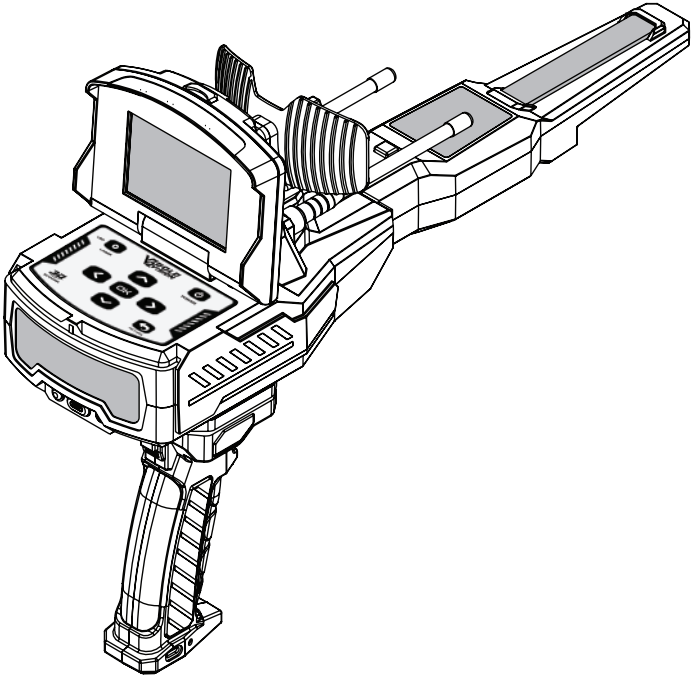
- Use the device outdoors, in open fields.

-Do not leave another detector or electromagnetic device close to the device within 10 meters (approximately 33 feet)

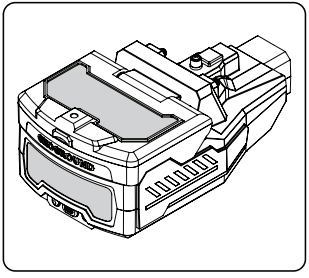
-Do not carry any metallic objects while using the device.
The device may detect the metals attached to you or to your shoes as targets.

For Consumers within the European Union: Do not dispose of this equipment in general household waste. The crossed-out wheeled-bin symbol on this equipment indicates this unit should not be disposed of in general household waste, but recycled in compliance with local government regulations and environmental requirements

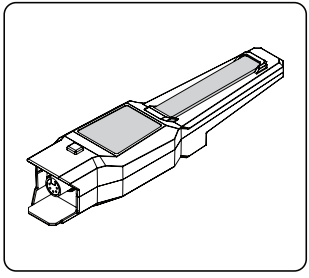
## Device Overview



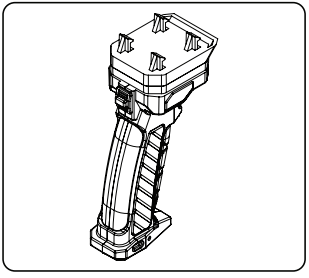
## Package contents



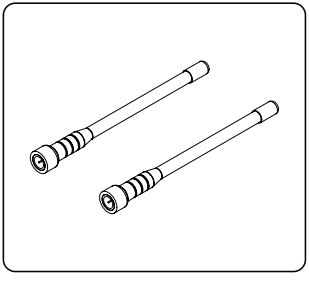
Main Unit



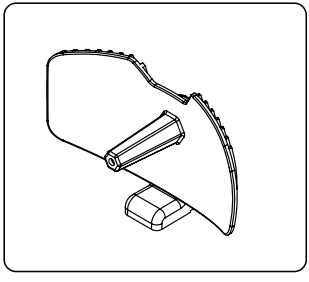
GEO Matrix Sensor



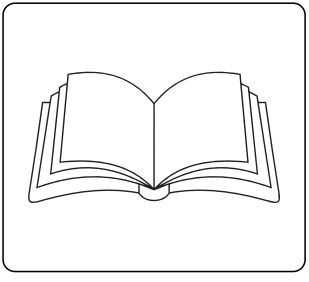
Wireless Handle



Search Antennas



Signal Booster Dish



User Manual

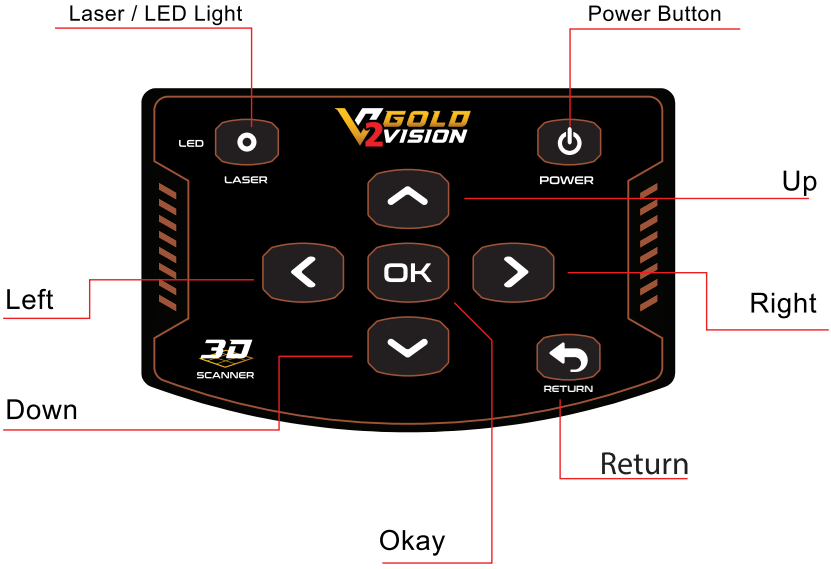
## Package contents

| | |
|---|---|
| 1 | Main unit |
| 2 | GEO Matrix Sensor |
| 3 | Wireless Handle |
| 4 | Search Antennas |
| 5 | Signal Booster Dish |
| 6 | Charger |
| 7 | Charger Cable |
| 8 | User Manual |
| 9 | Warranty Card |

## Device Overview



## Keypad Overview



## Device Assembly

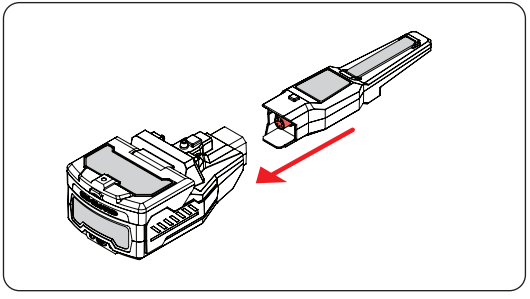
### Safety First

*Make sure the device is completely powered off and disconnected from any power source before performing assembly or installation.*

### Connect the GEO Matrix Sensor

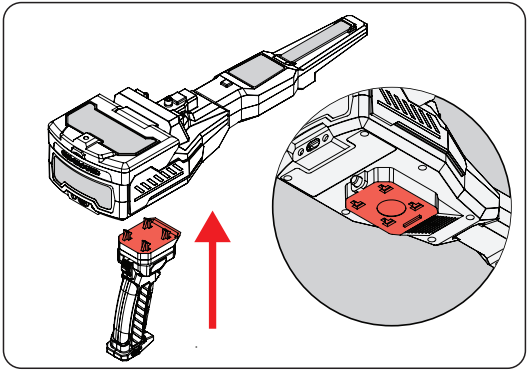
Align and plug the GEO Matrix sensor securely into its designated socket on the front of the main device unit.

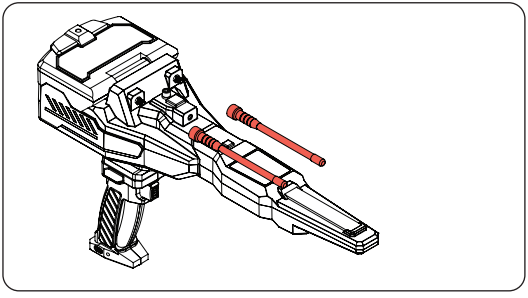
**Verification**: Ensure the connector is fully pushed in and seated tightly with no looseness.



### Attach the Wireless Handle

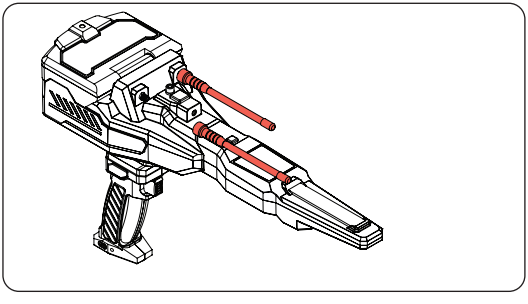
Connect the wireless handle to the bottom section of the device. Pay close attention to aligning the internal alignment pins properly into their matching slots underneath the housing before securing.





**Mount the Antennas**

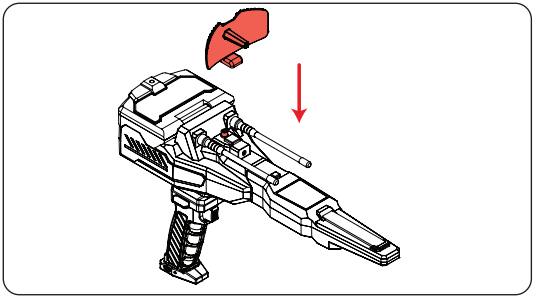
Insert and tighten the antennas into their designated mounting sockets on the main until they are finger-tight



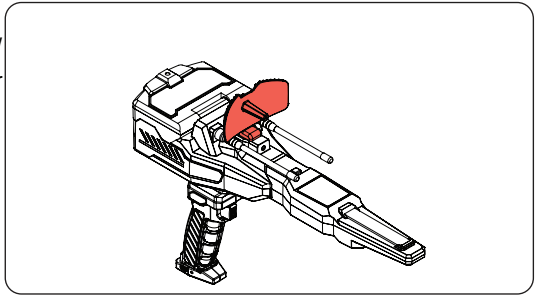
**Verification**: Confirm each antenna is firmly secured and does not wobble or spin loosely in its mount.

**Attach the Signal Booster Dish**

Place and securely fasten the signal booster dish onto its designated mounting location on the main device unit.



**Verification:** Ensure the dish is firmly fixed in place with no looseness or misalignment.



## Systems explanation

Embarking on a treasure hunt often requires advanced technology to navigate vast landscapes and uncover hidden secrets. Among the essential tools available to prospectors, multi-system metal detectors stand out as indispensable assets. Engineered to detect valuable objects using diverse, cutting-edge search technologies seamlessly integrated into a single device, these systems reveal targets hidden deep beneath the earth with unmatched precision. The following sections explain the device's individual systems and their intended functions.

### 1. 3D Ground Scan:

Introducing the latest addition to the treasure hunter's toolkit: the cutting-edge 3D ground scanning system. This innovative technology revolutionizes the way adventurers explore the terrain by providing a comprehensive three-dimensional representation of the ground beneath their feet. Unlike traditional detection methods, which rely on single-point readings, the 3D ground scanning system offers a holistic view of the landscape, enabling users to visualize underground structures, anomalies, and potential treasure sites with unparalleled clarity.

Equipped with advanced sensor and imaging algorithms, this system captures detailed data about the subsurface environment and generates 3D images. This system works with the **GEOGROUND 3D ANALYZER** Android application, which users can install on Android phones or tablets, allowing them to view and analyze the terrain from any location.

**2. Live Scan**

Designed for real-time underground exploration, the Live Scan system on the Gold Vision V2 provides immediate visual feedback directly on the screen. As the operator sweeps the area, this system dynamically processes signals to detect buried targets, anomalies, or changes beneath the surface. Featuring an intuitive graphical scale ranging from minimum to maximum values alongside a live searching indicator, it allows prospectors to instantly identify and react to underground signatures with high clarity and speed.

**3. Long-Range Locator (LRL):**

Engineered specifically for solo adventurers and professional prospectors, the Gold Vision V2 is a state-of-the-art long-range locator developed by Geoground. Tailored for single-person operation, this powerhouse system combines advanced scanning technology with high-precision target localization, empowering lone explorers to cover vast territories and map deep underground secrets with absolute confidence.

**4. Free Mode:**

Designed for advanced prospectors and custom searches, Free Mode on the Gold Vision V2 provides the same powerful capabilities as the Long-Range Locator system with an added layer of flexibility. Instead of relying solely on preset options, this system

allows the user to manually enter an exact frequency for a specific target type, giving experienced operators complete control to hunt for unique or custom-defined materials with high precision.

**5. Bionic System:**

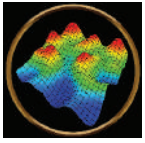
Blending advanced biometric sensors with cutting-edge algorithms, the bionic system opens new avenues for treasure detection by tapping into the realm of biological signatures. By interpreting minute physiological cues emitted by living organisms or organic materials, this system reveals hidden treasures with unparalleled accuracy, even in challenging environments such as dense forests or underwater terrain.

**6. Ionic System:**

Harnessing the power of ionic technology, this system delves into the unseen world of atmospheric ions to unveil buried treasures and ancient relics. By analyzing subtle variations in ion concentrations, the ionic system identifies anomalies indicative of hidden treasures, guiding explorers to potential hotspots with remarkable precision. Its ability to penetrate the earth's surface and detect metallic objects makes it an invaluable tool for archaeologists and treasure hunters alike.

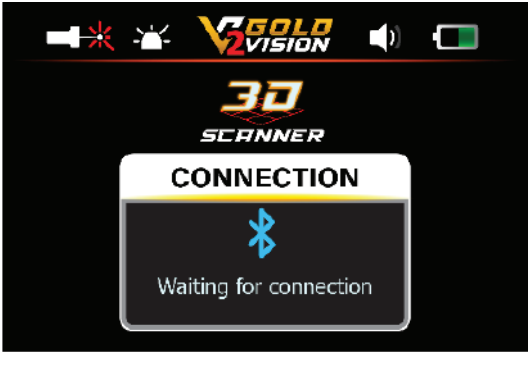
## 7. Smart Depth:

Geoground, after a long period of research and using highly intelligent algorithms, was able to program and operate the Smart Depth system. This system is able to calculate the approximate depth of a buried target with excellent accuracy. The Smart Depth system in the Gold Vision V2 is a unique system, through which the user can calculate or estimate the depth of targets buried underground accurately. This is done 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.



**3D Ground Scan:**

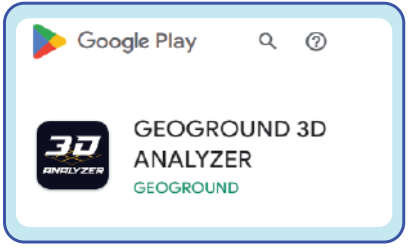
To use the 3D ground scanning system, select it from the main menu to open the connection screen for your Android device. Stay on this screen and perform the required settings on your Android device.



## GEOGROUND 3D ANALYZER

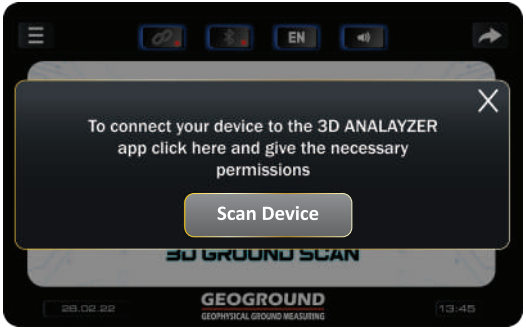
The new Gold Vision V2 device comes with a 3D scanning system. This system, along with other systems in the device, makes it easier for explorers to reach their goals.
The 3D scanning system with the ability to detect holes and ionized metals and display them in the form of colors and categorized values on the analyzer software platform helps a lot in the analysis of search locations.

Enter the **Google Play Store** on your smart device, and enter in search field "Geoground 3D Analyzer", the app will show you immediately. Install the application on your smart device and follow the steps below to connect with your new device.



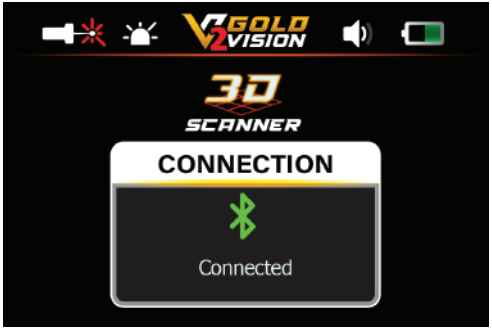

**Users can also scan this QR code to open the app's download page directly in Google Play.**

After launching the app, you will first see an alert to start searching for your device, choose your device from the list of available devices and give the necessary permissions to the app for the connection.

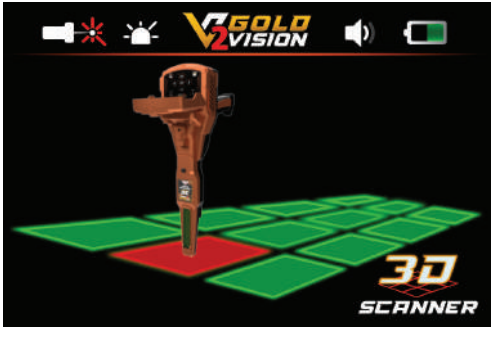





Note: In order to quickly connect or disconnect, we press the connection icon located in the status bar at the top of the main screen.
If this is the first time you are connecting the device to the app, by pressing the Scan button a connection screen will appear. by press on the scan button in this screen a list of all available devices will appear. select the device and press on connect to establish a connection with the device




After connection is established, the "Waiting for Connection" icon on the device screen changes to the "Connected" icon.




Then you are taken to another page that schematically shows the ground scanning animation.

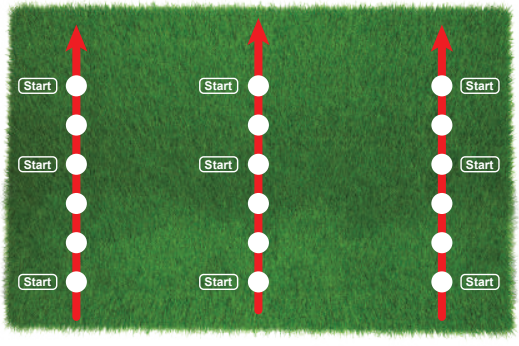
After entering the 3D ground scanning option in the main menu, the 3D system settings screen will appear.
On this screen, the user must adjust the scan settings according to the area and target.




These settings help the user perform a more accurate scan. so it helps the application to analyse the scan and give the user the best results

These settings are:
1. Path
2. Direction
3. Type
4. Lines
5. Pulse

١. **Path:** From this option, we can specify the path by which we want to search.



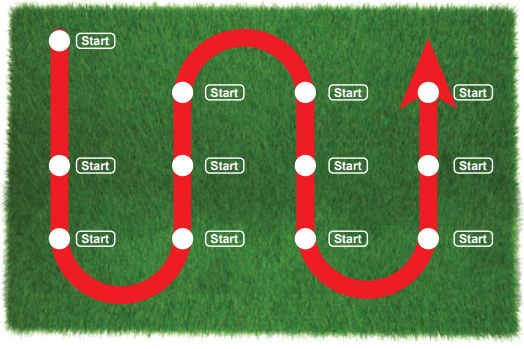

### III Parallel Path:

In this path, the search lines are straight, and parallel. before the start of the first line, and At each step, the user must press the Start button. if we have chosen the "manual" search type.

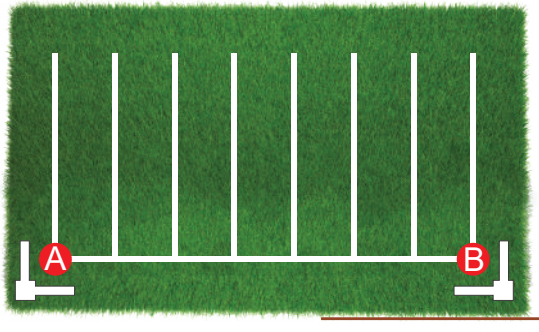
We also always recommend that The distance between steps should be approximately 30 cm. We repeat this process for each line we take, until we have finished all the marked lines. (Please read paragraphs 3 and 4 on the following pages for how to calculate the number of lines and pulses in both the parallel and zigzag paths).

## Zigzag Path:

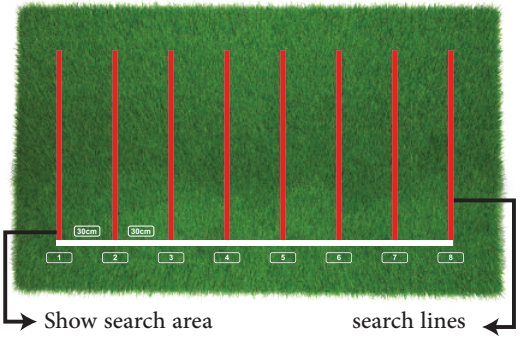
In this path, follow the zigzag method, as shown in the drawing on the side, remembering to press the Start button at the beginning and end of each step you take in this path. We also always advise that The distance between steps should also be approximately 30 cm.




**2- Direction:** Starting corner of the search area.
From this option, we can select the starting point from which the search will start, so that this point is in one of the corners of the specified search area.



If we are going to start the search from point A, for example, we must select the direction illustrated below ( ⌊ ) in the “Direction” option from the system settings, and vice versa for point B.

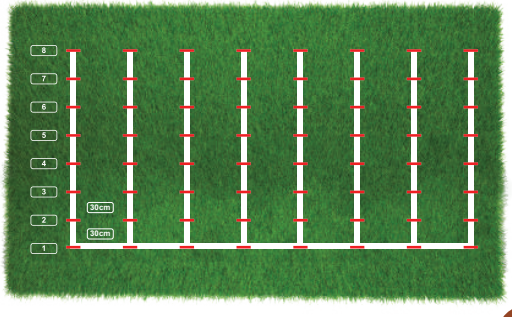



**3-Lines:**

The process of calculating the number of trajectory lines in the search area: For example, suppose we want to search an area 3 meters wide and 3 meters long, we divide the line of latitude that we drew into parallel and longitudinal lines "based on it" so that the distance between each line and the other is 30 cm, In this case, we will produce "almost" a total of 10 lines based on the latitude that we previously determined. You write the number of lines that we calculated, which is 10, in the “Lines ” field of the system settings in the application.

**4-Pulses:** The process of calculating the number of pulses for each line in the paths: The "number" of pulses is the number of times we will press the Start button on the wireless handle while searching in the path lines. To calculate the number of pulses in tsearch lines. As we previously assumed that the length of the area .the search area is 3 meters long, that is, the length of the lines that we specified in the previous paragraph will be 3 meters as well. We divide the line of longitude or the previous lines into equal sections, or we call them pulses, so that the measurement of one section or the distance between each pulse and the other is 30 cm. In this case, we will have "Almost" with a total of 10 pulses in each of the lines that we previously defined. We write the number of pulses that we calculated, which is 10, in the "pulses" field of the system settings in the application.

The white lines in this drawing indicate the search lines that we identified in the previous paragraph, while the red lines drawn on the white lines express the impulses that we will make in these lines.



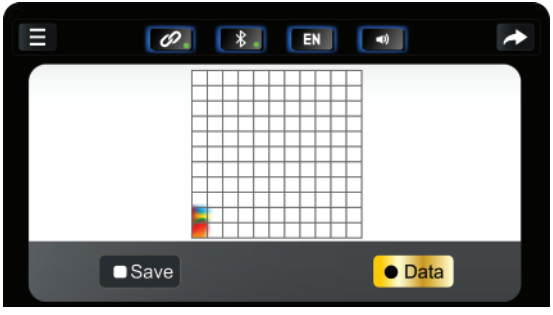
**5- Type :**

or search type, by this option we can choose how pulses are recorded either automatically or manually, When selecting the "Manual" option, the user must press the Start button located on the wireless handle of the device at each step in one of the previous paths (as shown in the previous paragraphs, this is in contrast to the “Automatic” option so that the application here calculates the number of pulses in each A search line from the automatically selected paths, meaning there is no need to press the Start button manually at each step, but the user will have to press Start at the beginning and end of each line only.

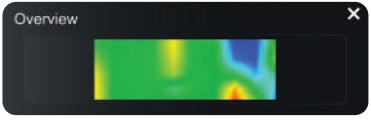
After completing all the previous settings, we press the "Start Scan" button at the bottom of the screen.. Skip the video tutorial and start searching with the previous settings.



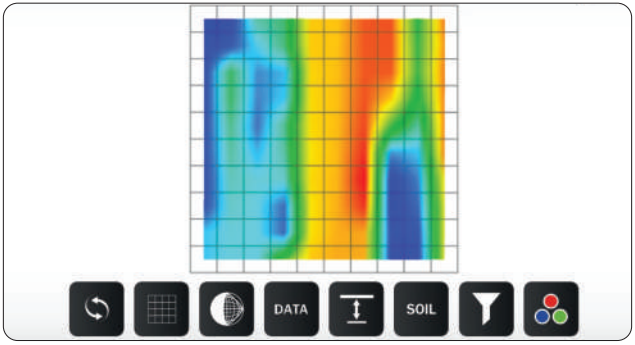
We will notice that with every step we take in the paths, the application will start drawing 3D details. Complete the search process as we prepared it until a window appears on the screen stating that the search process has been completed successfully.




We review the result of our search. Then we save our search file, in order to view and analyze the file later.

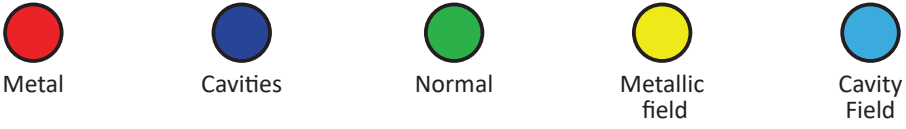



By selecting a file from the saved-file list, the user can access several analysis tools.

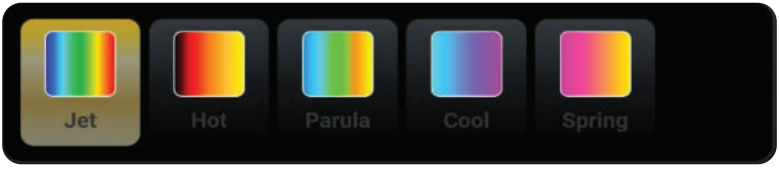



1-Reset&drawing view for the automatic and main mode.
2-The ground grid or the surface of the search area.
3-The wireframe or solid vision of the drawing.
4-Search results data.
5-The approximate depth in each search box (grid cell)
6-Soil type for the search area: choose the appropriate type of soil from 15 natural types - cement - clay - sandy - clay - high minerals - low minerals - rocky - fresh water - salty water - snowy - permafrost - charcoal - granitic - saline.

7-Color filter: This is used to hide one of the colors of the drawing.




8-Color themes of drawing color gradations.




We can refer to the file of the search we have done at any time through the Files section of the application.

**Application Settings**

This app supports eight languages.

in the settings user can change the preferred language by selecting one of the following languages

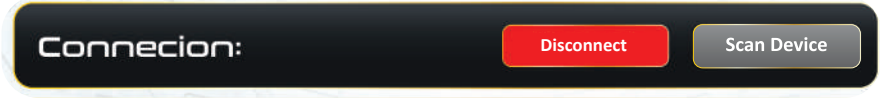





We can also change the language faster by returning to the main menu and pressing the language icon on the top bar. A list of the eight available languages will appear.

## Connection

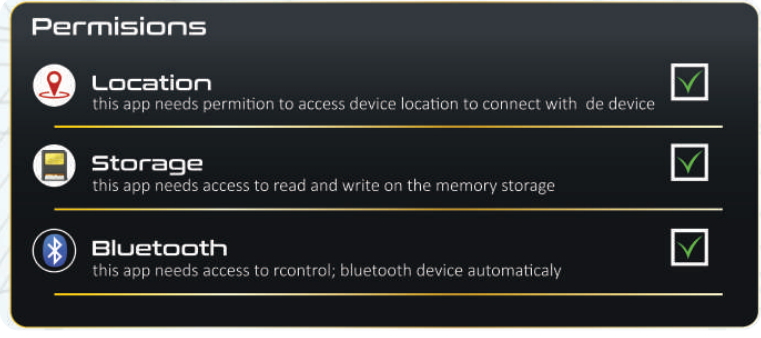
From the connection option in the settings, we can access the option to connect the device to the application, or to disconnect the device. We can also access the speed dial feature from the dial icon in the top bar of the main menu.



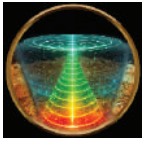

We also recommend turning on Bluetooth before starting to connect the device, or to give permission to the application to automatically open Bluetooth technology. We can turn on Bluetooth from the Bluetooth icon present in the status bar.

**Permissions**

To turn on or off an app's permissions (location, storage, Bluetooth), we can just tap the pop-up window on the right.



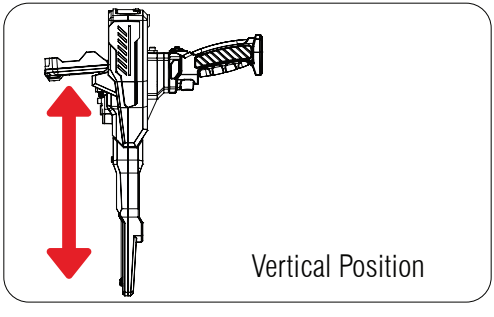

In order to access information about the Geoground company or information about the device connected to the application, we can click on the right pop-up window.



## Live Scan



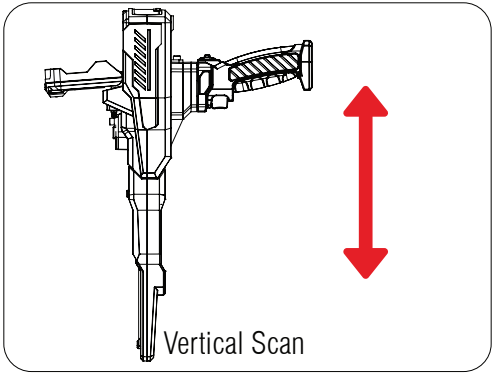

To use the Live Scan system, select it from the main menu.
First, the system asks you to hold the device correctly and then press the start button to perform the calibration process.
For this system, hold the device in a fully vertical position, and then press the start button.





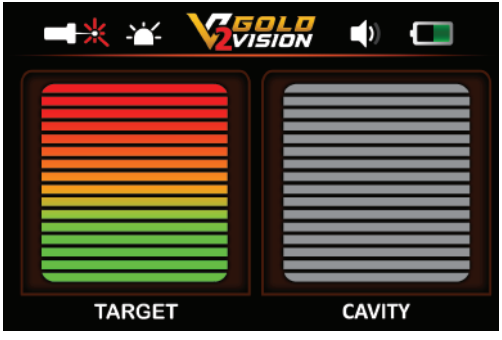

By pressing the start button, wait until the calibration process is completed. Then you will enter the main screen of the system.

After calibration and entering the system screen, hold the device in a fully vertical position. Then, begin exploring by gently moving the device to the left and right.



On this page, there are two bars: the left column displays the findings for metal searches, and the right column displays the findings for underground cavities and voids.

When the device detects a signal from potential targets, the target column displays the received signal strength in red. The stronger the signal, the further the bar progresses.



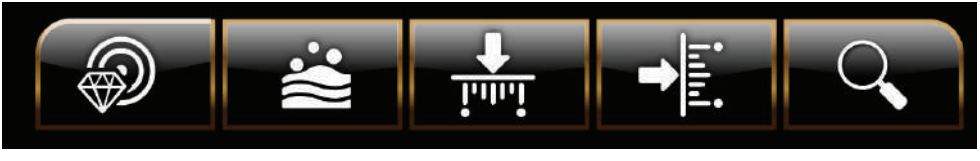

When the device detects a signal for a potential cavity or void, the cavity column displays the received signal strength in blue. The stronger the signal, the further the bar progresses.





## Long Range Locator

To use the Long Range system, select it from the main menu.
Upon entering this system, we must first configure the search settings. These settings include:



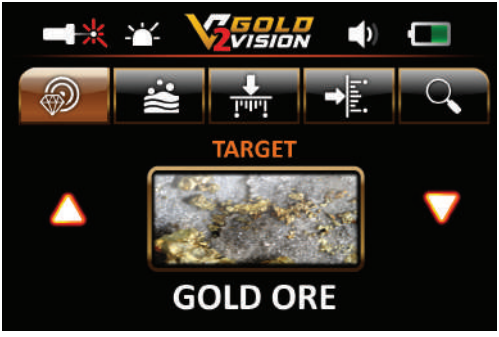
1. the type of target being searched for.
2. the type of soil in the search area.
3. the required search distance.
4. the estimated or desired search depth.

Use the left and right arrow keys to switch between system settings.

**Target Type:**

To select the target type, use the up and down arrow keys on the keyboard to choose your desired target.

The Gold Vision V2 device includes the following targets:





Gold Ore


Gold Treasure


Gold Veins


Silver


Platinum


Bronze

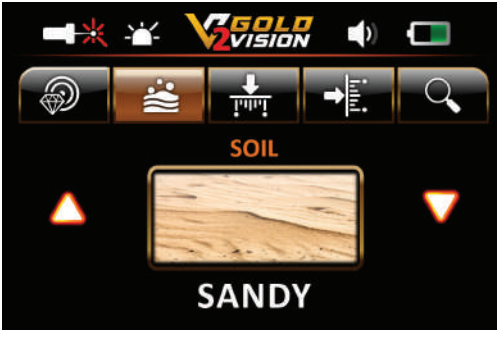

Copper


Diamond


Gemstone


Iron


Cavity / Void




**Soil Type:**
To select the Soil type, use the up and down arrow keys on the keyboard to choose your desired soil type.
The Gold Vision V2 device includes the following soil types:

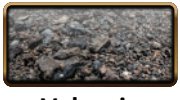

Low Mineral


High Mineral


Gravel


Forest


Saline


Volcanic


Rocky


Wet

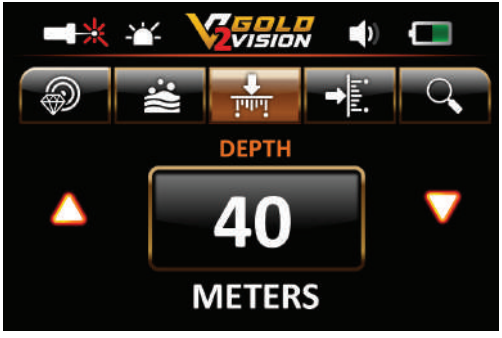

Dry


Normal


Sandy

**Depth:**

Gold Vision V2 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 up / down arrow keys on the keypad to change the desired depth.

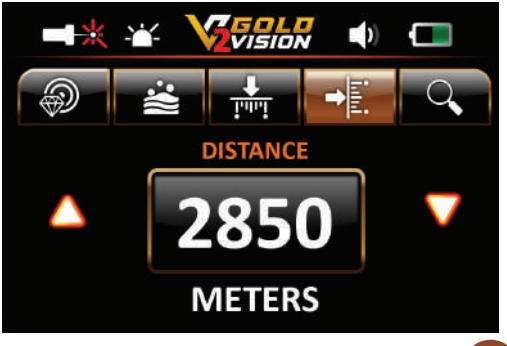



**Distance:**

The Gold Vision V2 has a detection range of up to 3000 meters from the device's location.

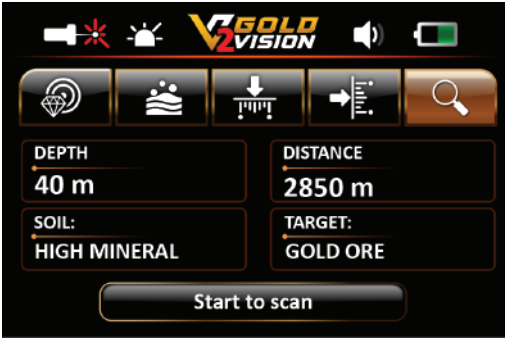
From this section, the user can search for all possible targets within the range he defines (from 1 meter to a maximum of 3000 meters).

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



**Scan settings overview:**

Use the right arrow key to move to scan setting overview tab.  in this tab, you can see all the settings that you previously selected iin the previous sections, such as target type, soil type, selected depth and selected distance.




By pressing the OK key on the keypad, the long-range locator scan process page will be displayed.

Continue to the following pages to explain the details of the search screen

## Calibration

After completing the initial settings, and entering the search screen, a warning window will appear to us, as shown below:

*Hold the device horizontally then press START to begin calibration.*

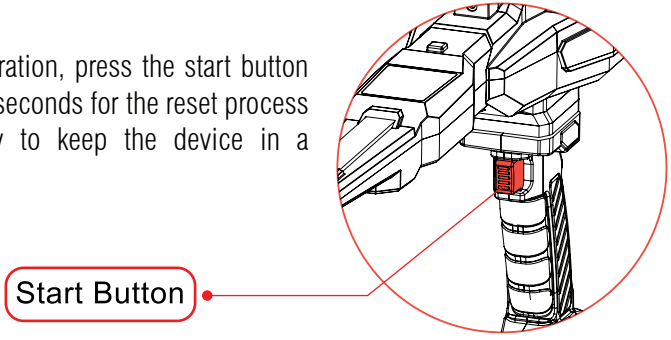
Press the OK button on the keypad or the Start button on the top of the wireless handle to start calibration and enter the search screen.







**Note:** To reset the calibration, press the start button on the handle and wait 5 seconds for the reset process to complete. Always try to keep the device in a horizontal position



## Description of the Search Screen

After completing the initial settings and dismissing the calibration notification, the search screen will appear.




**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 Settings Overview**
This section shows all the previous settings that the user chose in the settings tabs.

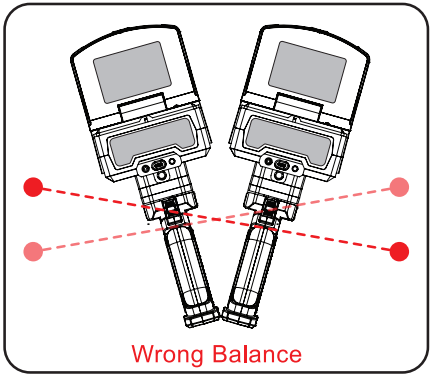
## Device Balancing

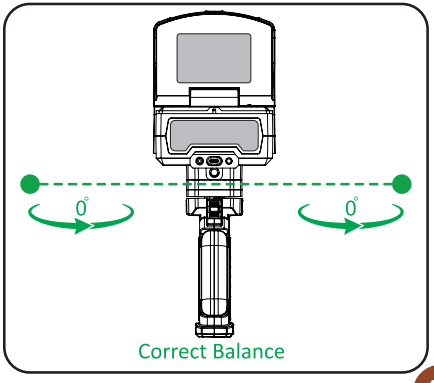
In Long-Range system, the device searches for targets that the user chooses in advance, after specifying the correct settings in the system.

Go to the area where you want to search and keep the device in a flat horizontal position without tilting to any side, here the user can calibrate the balance of the device using the balance indicator on the screen.

Make sure that the device's balance indicator (green indicator) is on the green mark in the middle of the indicator.

You should also be aware that this requires a lot of concentration (for example, if you are tired, try to rest a bit and then continue the calibration process) in order to obtain a better and more accurate results.

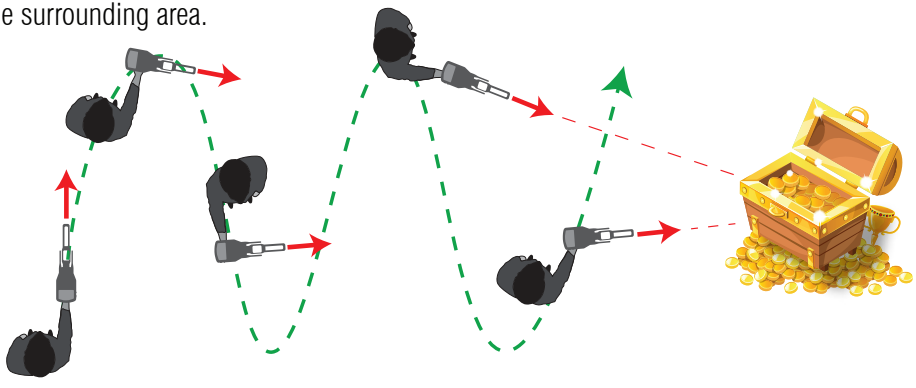


## Search Methods:

### 1. Search Method According to the Zigzag Path if the Device Does Not Rotate:

During an initial or normal search—meaning when no targets or signals are picked up by the device in the current search area—you must always advance according to the zigzag path. This allows the device to capture and analyze as many signals as possible in all directions of the surrounding area.

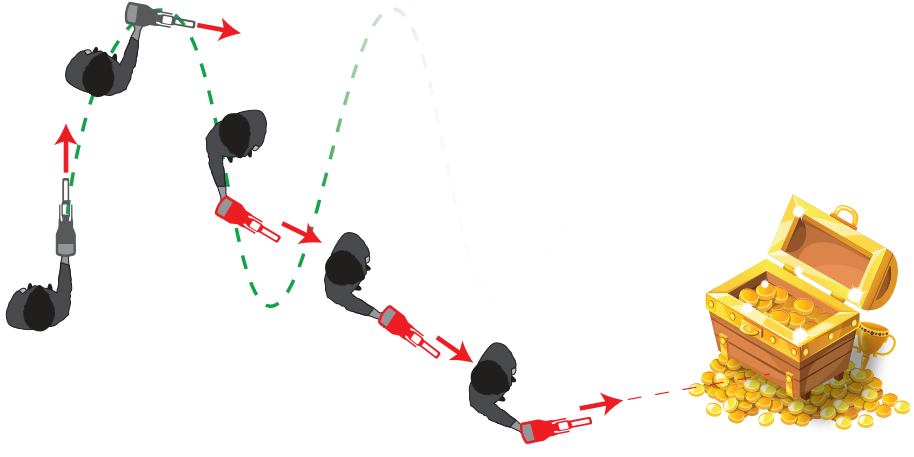


We always recommend starting from the northern region of the target search area. Until the device begins to rotate on its axis. Then the user must follow the method of determining the target area, which will be described in Paragraph 2.

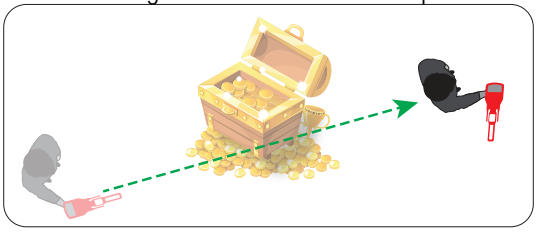
## 2. Determine Target Area if Device Rotates:

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.

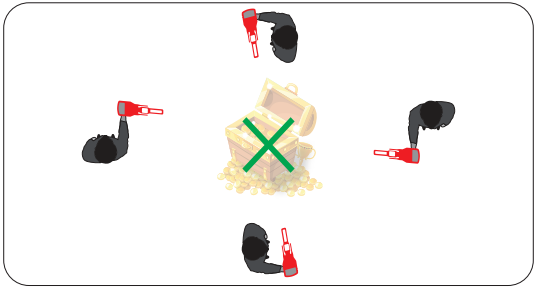
The user must then proceed in the direction of the device's rotation. the direction of the device's rotation always, and then we will notice that the device leads us to a point or a certain direction.



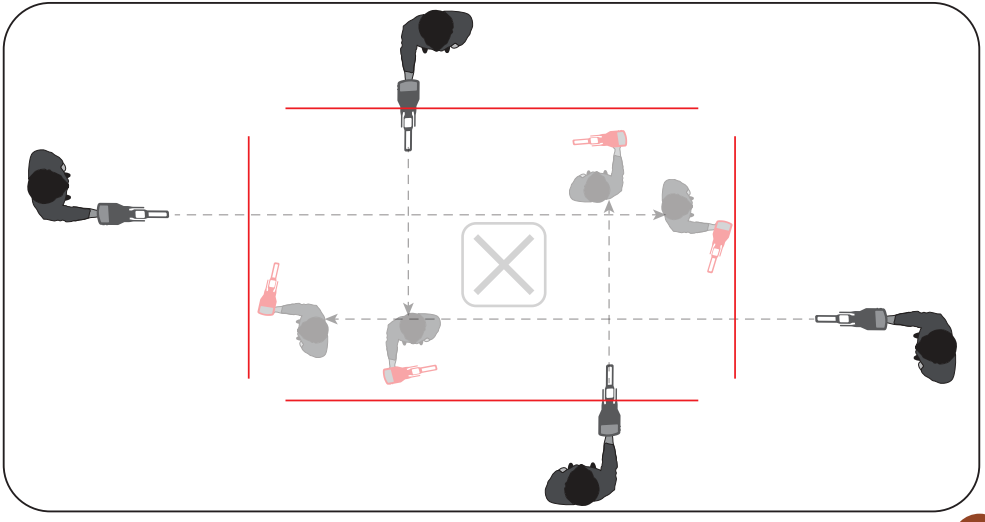
We keep following the direction of rotation of the device, until the device begins to rotate around its axis for more than 90 degrees. Then we mark this point.



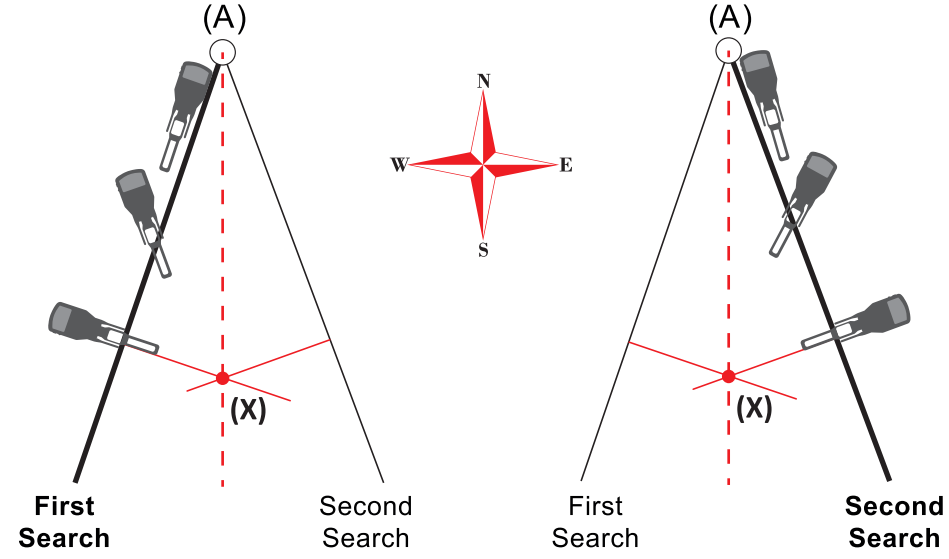
We go back in the opposite direction and slowly until the device rotates around its axis again for more than 90 degrees, we put a mark at this point as well. We repeat this process from different directions of the search area and mark each point where the device rotates. We will notice that it has begun to form a rough outline of the target area. We will notice that the device always rotates towards a specific point or area.



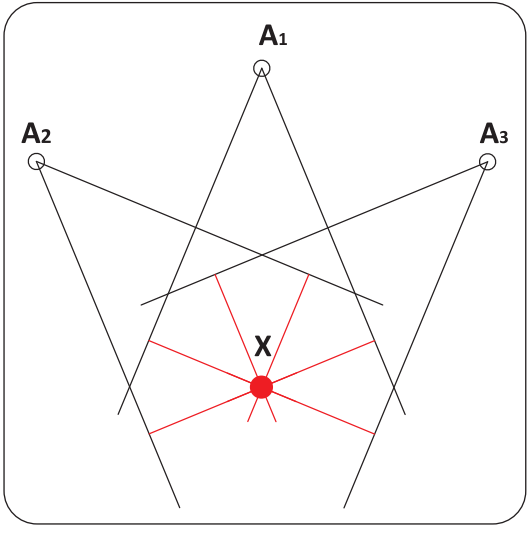
We move away a little from the drawn area (marked area) and start heading from the north side towards it, and at every point where the device rotates for more than 90 degrees, we draw a new transverse line. We repeat this process from the four sides of the target area. we will see that a square or rectangular 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.



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 suggests that area X may contain the target.



In order to limit the target area more precisely, repeat the process described above from more than one different direction for the potential target area (X).




**Note:** We always recommend proceeding as slowly as possible while searching.

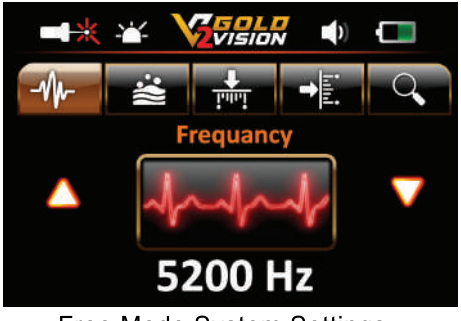


## Free Mode

Free Mode in the Gold Vision V2 device is similar in its operating principle and technology to the long-range scan system. However, in this system, we can specify an exact value for the required search frequencies to match a specific type of metal we want to search for, in order to obtain greater accuracy when searching for specific minerals or targets.
Install the handle, antennas, smart sensor, and signal booster dish into the device, and make sure the wireless handle lock is unlocked
Select the Free Mode system from the main menu and press the OK key to enter. Here, we can customize the exact frequency value 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, and the maximum distance and depth of the desired target) just like 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 desired frequency value; that is, the user must select the desired frequency from the Frequency option, instead of choosing the target type from the automatic list in the long-range system.

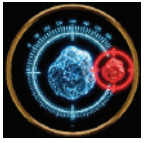



Free Mode System Settings




Search Screen

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

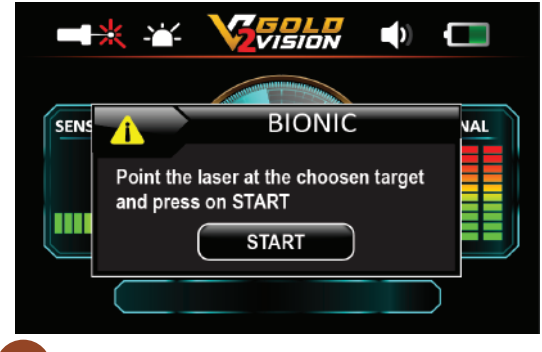


## BIONIC

The Bionic system operates similarly to the Ionic system, but rather than performing a random search, it targets specific material types using predefined signals. By capturing ionic signatures from a specific sample object (such as a gold coin), the system directs its search toward detecting matching signatures from buried objects in the surrounding area.

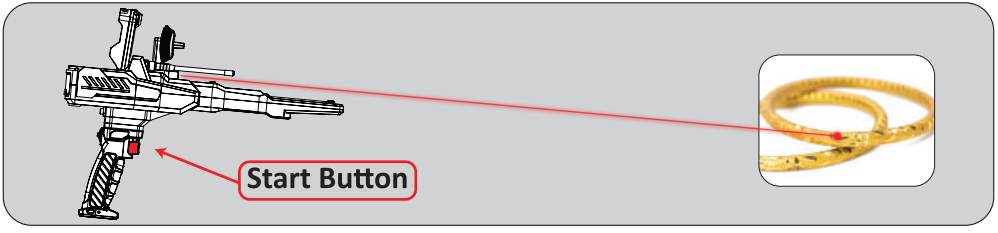
### How to Use:

Install the handle and sensor securely into their designated ports, ensuring the wireless handle lock is engaged.




Upon entering the Bionic system, a prompt appears instructing you to point the sensor head toward the target sample and then press the Start button to save the target sample into the device's memory.

**Note:** The laser pointer is used for accurate alignment with the target sample.

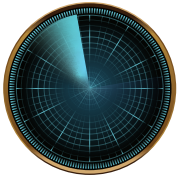



Wait for the calibration process to complete, after which you will enter the search screen.

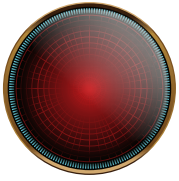



**Note:** The calibration process is only prompted upon entering the system.

**Explanation:** To scan different types of targets, it is recommended to exit the system and re-enter, then scan the sample and perform calibration. However, for scanning similar targets while you are already inside the system, you can also perform this by pressing the Start button while aiming the laser at the same type of sample.



Searching State



Target Found State

The interface features a central radar display tracking live sweep.
In the search state for locating the target, a radar-scanning animation is displayed inside the main circle. Note that this animation is schematic and solely intended to indicate the searching action, whereas the actual search is performed by the antennas and signal amplifier.

If a target similar to the scanned target is detected, the color inside the circle changes to red, and the device emits a beep sound.




The Sensitivity meter on the left allows you to adjust and monitor response levels.
Use the left and right arrow keys on the keypad to change the sensitivity state.
You can adjust the sensitivity from 1 to 10.

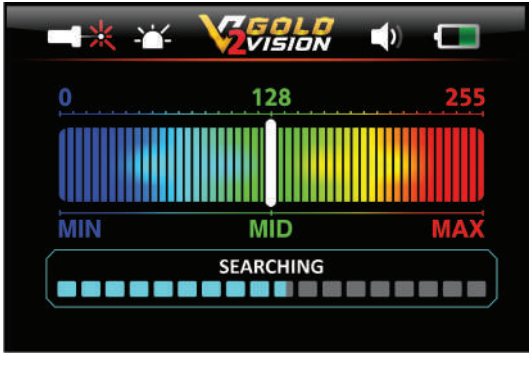
The Signal strength bar on the right, and a bottom status bar indicating active searching.



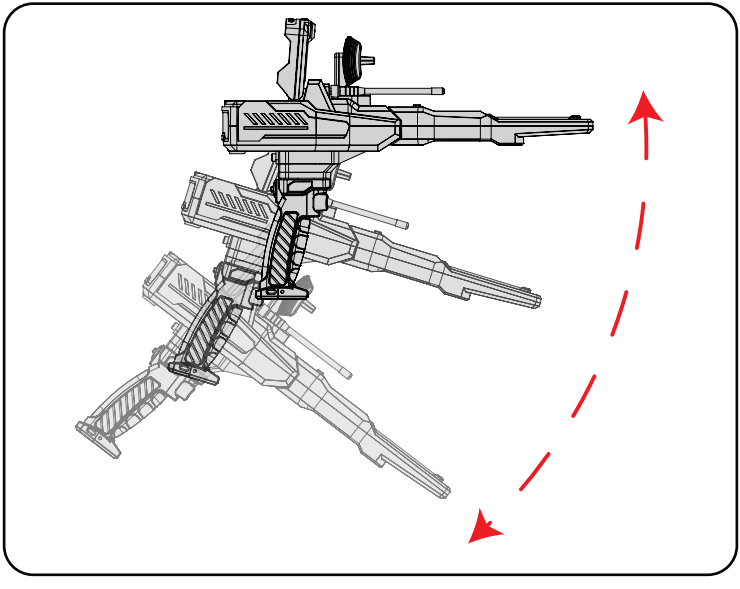
## IONIC

When selecting the Ionic system, the device displays a progress bars on the search screen. The bar reflects the signal strength from metallic and underground voids like tunnels, graves, or gaps.

Install the handle and sensor into their respective ports, and ensure the wireless handle lock is securely locked.

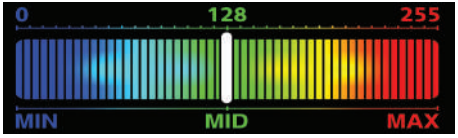


After entering the Ionic system screen, press the Start button while standing outside the search area, facing the opposite direction of your intended search, in order to calibrate the sensor. Next, slowly move the device up and down at a steady speed while tilting it slightly toward the ground surface.



During active scanning in the Ionic system, the screen provides real-time visual feedback to help identify targets and voids:

**Main Indicator Scale:** The upper gauge spans from 0 to 255, with a central neutral point (MID at 128). The live indicator needle moves dynamically across this scale to show real-time signal values during your search.




**Red Side (Ion Target Detection):** The right side of the scale (shaded in red) represents metallic targets and ion concentrations (such as buried gold or iron). When the indicator needle shifts toward the red side, it indicates the presence of a metallic ion target, with stronger deflection pointing to a larger or closer target.

**Blue Side (Cavity Detection):** The left side of the scale (shaded in blue) represents voids, tunnels, or open spaces. When the indicator needle shifts toward the blue side, it signifies the presence of a cavity—with deeper movement indicating a larger or closer void.

Searching Bar: The bottom progress bar indicates that an active searching action is currently underway.





## Smart Depth

GeoGround, after a long period of research and using highly intelligent algorithms, was able to program and operate the new Smart Depth system. In the new Gold Vision V2, this system is designed to be more powerful and more accurate. This system is able to calculate the approximate depth of a buried target with excellent accuracy.

The Smart Depth system in the Gold Vision V2 is a unique system through which the user can accurately calculate or estimate the depth of targets buried underground. This is 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 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, 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.

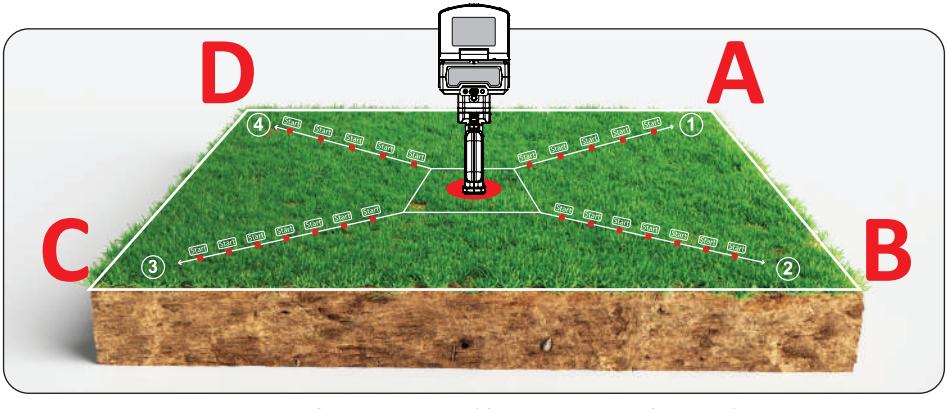
After entering the system screen, a message will appear asking you to stand over the central point of the target and press the Start button on the handle.




Wait until loading is complete, and make sure that the device is properly balanced—meaning it is in a flat, horizontal position without tilting to any side.



We start moving forward toward the corner of the first path, and as we move forward with each step, we must press the Start button on the handle. We will notice the number of steps taken and the direction of our path displayed in the corner of the screen. Every path we take ends when the device starts turning left or right on its axis, notifying us to return to the center point and start the next direction.





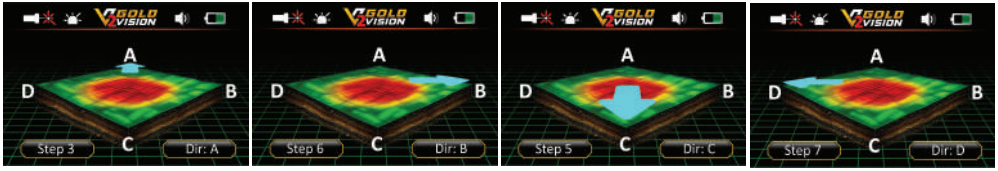

Clockwise rotation

The user should ensure that movement paths always follow a clockwise direction—meaning starting from direction number 1, then moving to 2, then 3, and finishing with direction 4, as shown in the figure.

When the device changes its direction, a message will appear instructing us to return to the central target point. We return to the central point of the target and press the Start button on the handle to begin the second path. We follow the previously mentioned steps for the second path, followed by the third, and finally the fourth path.



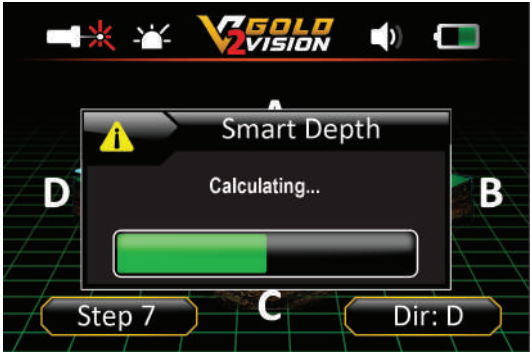

*Note: When progressing along any of the aforementioned paths, always remember to press the Start button once for each step within the specified path.*




**Direction A** **Direction B** **Direction C** **Direction D**

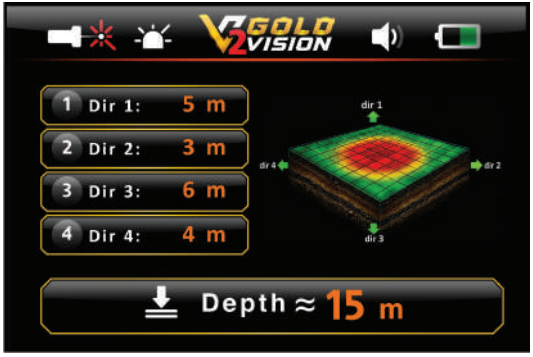



After completing paths A, B, C, and D, a message will appear prompting you to press the Start button to calculate the approximate depth.
By pressing the Start button, the calculation process will begin.




Wait until the calculation is complete and you are automatically transferred to the next screen.

This screen displays the depth calculation results.




On the left side of the screen, the specifications for each of the four directions and the distance of the device's turning point from the center of the potential target location are shown.
At the bottom, the approximate depth of the potential target is displayed.

**Note:** *The displayed depth should not be considered exact.*

*The precision of the depth calculation in the Smart Depth system is directly related to the user's accuracy and precision while operating the system. The more accurately and skillfully the user performs the steps, the more precise the calculated depth will be.*



**Settings**

The settings menu provides a centralized interface for managing system preferences, hardware options, and device diagnostics. Users can customize display and audio output by adjusting screen brightness and speaker volume levels, configure language preferences, and toggle the smart sensor's LED illumination. Additionally, the system features a dedicated information page displaying technical specifications such as the serial number, software version, and model details, alongside automated alert screens that notify users of hardware or power issues like sensor disconnections and low battery status.

**Accessing Settings:** Select Settings from the main menu and press OK. Then you can access the settings page.

**Switching Between Items:** Use the Left/ Right Arrow controls on the Keypad to select and toggle between the different setting categories displayed across the top bar (such as Language, Brightness, Volume, Sensor LED, and Device Information).

## Language

This option allows you to configure and change the display language of the system interface to match your preference.
Navigate to the Language icon, select your desired language option from the list and confirm to apply the changes across the system.




**Supported Languages:**
The device interface is available in multiple languages to accommodate users worldwide:

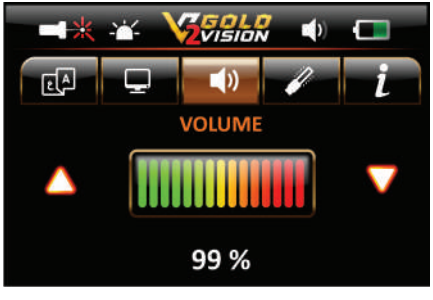


## Brightness




this option controls the intensity of the screen backlight to ensure clear visibility under varying outdoor lighting or sunlight conditions.
Select the brightness setting, then use the up and down arrows on the keypad to increase or decrease the screen illumination level to your comfort.

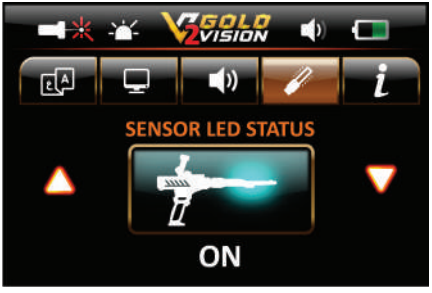
## Brightness




Manages the audio feedback, alert tones, and systems and keypad sound levels so you can clearly hear detection beeps and warnings.
Open the volume control panel and use the up/Down arrows on the keypad to adjust the percentage level up or down to raise or mute the system's sound output.

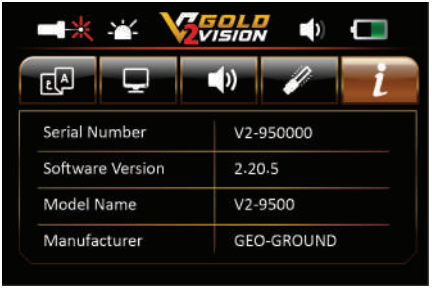
## Sensor Light

Controls the built-in LED illumination light on the sensor head.
Toggle the option between ON and OFF depending on whether you need illumination for your working environment useing the up/Down arrows on the keypad.




## Information

A read-only system screen that displays critical technical specifications about your unit.
No adjustment is needed here. this screen simply provides information such as your Serial Number, Software Version, Model Name, and Manufacturer details for maintenance and verification purposes.






**Status Bar Overview**
The top status bar provides a persistent real-time overview of key hardware functions and system indicators during operation:

**Laser Indicator:** Represents the device laser, which automatically activates when using the Bionic system to help accurately point toward target samples.

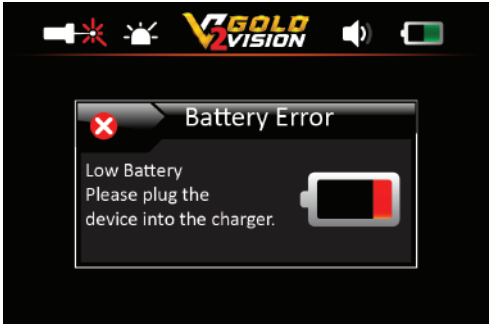
**LED Indicator:** Refers to the LED light located at the back of the screen, designed to assist with visibility and operation in dark environments.

**Device Logo:** Displays the device logo (Gold Vision V2) in the center of the bar.

**Volume Indicator:** Shows the active audio/sound volume status of the device.

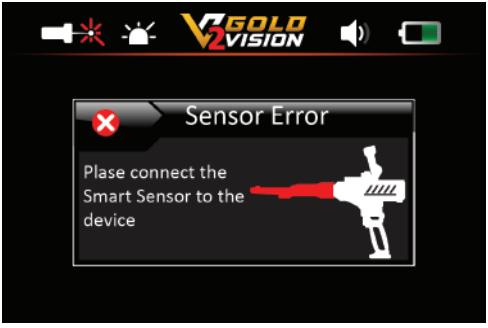
**Battery Status:** Displays the current power level of the battery with a visual indicator bar.

**System Error & Warning Alerts**
The device features built-in automated diagnostic screens that alert you immediately when hardware or power attention is required:




**Sensor Error:** This warning popup appears if the sensor is disconnected or improperly attached to the main unit. To resolve this, securely connect the smart sensor to the device.

**Battery Error:** This warning popup appears when the battery level is critically low. To resolve this, plug the device into the charger.

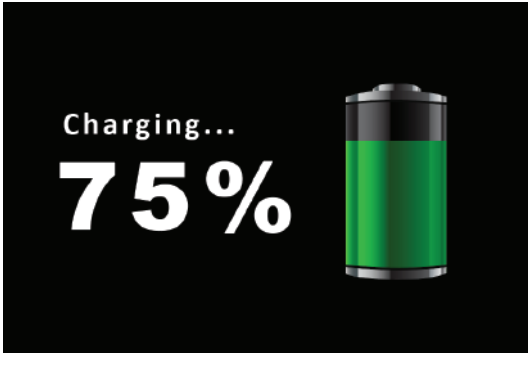


## Charging the Device:

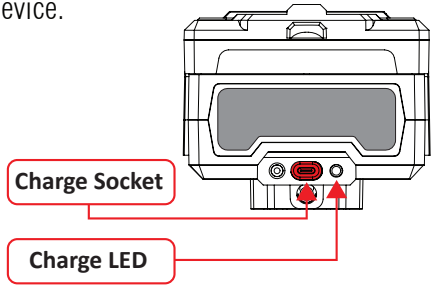
Since the device consists of two rechargeable components (the main unit and the wireless handle), each of them must be connected to the charger separately.

To charge the main unit, plug the USB-C charging cable into the charging socket located at the back of the device.
During charging, a red LED lights up. Once fully charged, the LED changes to blue.

**Important recommendation:** For the first time, leave the device on charge for at least 6 hours.



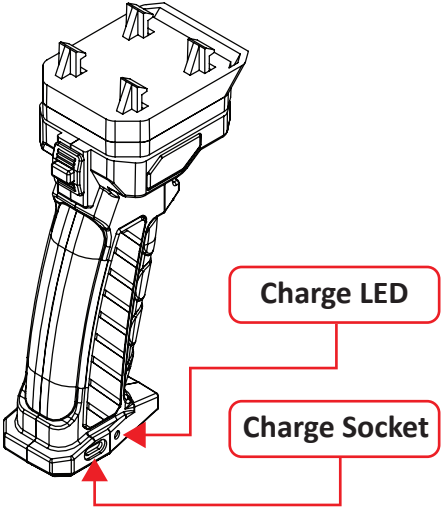

When the device is turned off and connected to the charger, a charging screen is displayed, allowing you to check the current battery level of the device.



**Charging the Wireless Handle:**

To charge the handle, you can use the main device charger or any standard compatible charger equipped with a USB-C socket.

The charging socket is located at the bottom of the wireless handle. Next to it, an LED indicator lights up red during charging and turns blue when fully charged.



## Technical Specifications

| Component | Feature | Specification |
|---|---|---|
| **Processor (MCU)** | Architecture / Type | Tensilica Xtensa / RISC-V (ESP32 Based) |
| | Frequency | 72 MHz |
| **Memory** | Type | SD |
| | Capacity | 2 GB |
| **Screen** | Type | TFT LCD HMI |
| | Size | 3.5 inches |
| | Resolution | 480 × 320 |
| | Color | 64 K (65536) |
| | Backlight | LED |
| **Sound** | Output | Speaker + Headset |
| | Jack Type | 3.5 mm |
| | Internal Speaker | 2 Ω / 3 W |

| Component | Feature | Specification |
|---|---|---|
| **Charger** | Input | 100 – 220 V, 50 / 60 Hz |
| | Output / Port | 5 V, 2.5 A (Type-C Standard Input for both Main Unit & Handle) |
| **Battery** | Main Unit Battery | 3 × Lithium-Ion (2000 mAh each) |
| | Wireless Handle Battery | 1 × Flat Lithium-Polymer (Li-Po) |
| | Removable Battery | No |
| **Other Features** | Flash LED | 5 mm (rear/ illumination) |
| | Laser | 650 nm / 5 mW |
| | Vibration | Yes |
| **Environment** | Operating Temperature | 0 – 40 °C |
| **Package** | Dimension | 430 mm × 380 mm × 160 mm |
| | Weight | 3,750 g |

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