GOLD TRONIX



USER MANUAL

Model: GT-6500

GERMAN TECHNOLOGY

WWW.GEO-GROUND.COM

3D

IMAGING SYSTEM

GOLD TRONIX

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 TRONIX
Advanced 3D Ground Scanning Technology

The Gold Tronix by GEOGROUND is an advanced ground-scanning device developed for users who require detailed visualization and analysis of underground structures. With a specialized focus on 3D ground scanning, Gold Tronix combines electronic measurement technology with intelligent data processing to transform collected ground data into clear three-dimensional visual representations.

Featuring two dedicated operating systems—3D Ground Scan and Live Scan—Gold Tronix provides complementary approaches to examining scanned terrain. The 3D Ground Scan system enables users to collect ground data across a defined scanning area and visualize the results as a three-dimensional model, while Live Scan supports real-time viewing of scanning data during operation.

Designed to make ground scanning and data interpretation more accessible, Gold Tronix combines configurable scanning parameters with visual analysis tools to help users examine variations in collected data and identify potential underground anomalies. Its dedicated scanning functions make it a focused solution for users who prioritize 3D ground visualization and real-time scanning feedback.

GEOGROUND — Advanced Technology for 3D Ground Scanning.



WARNINGS

Gold Tronix 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 Tronix 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.

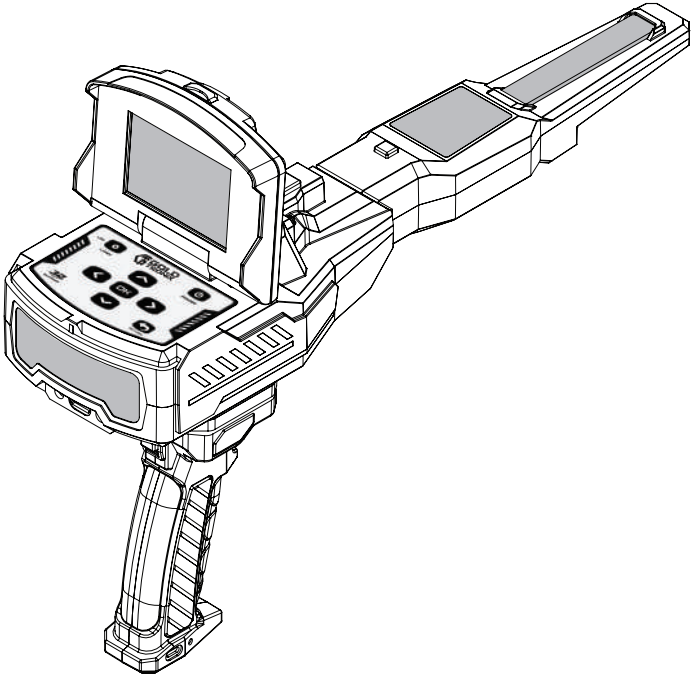
- Use the device outdoors, in open fields.

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

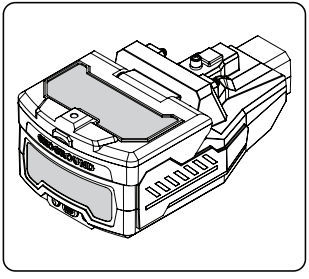
-Do not carry any metallic objects while using the device.
The device may detect the metals attached to you or to your shoes as targets.

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

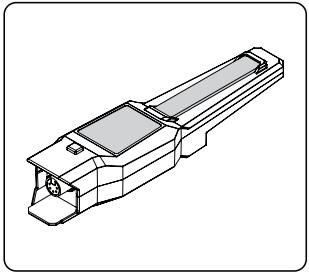
Device Overview



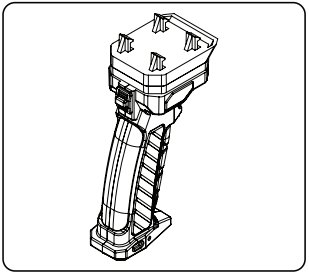
Package contents



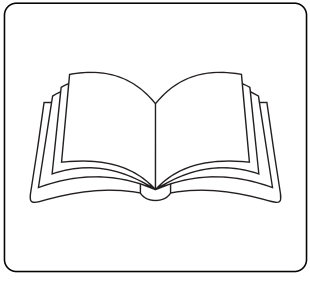
Main Unit



GEO Matrix Sensor



Wireless Handle

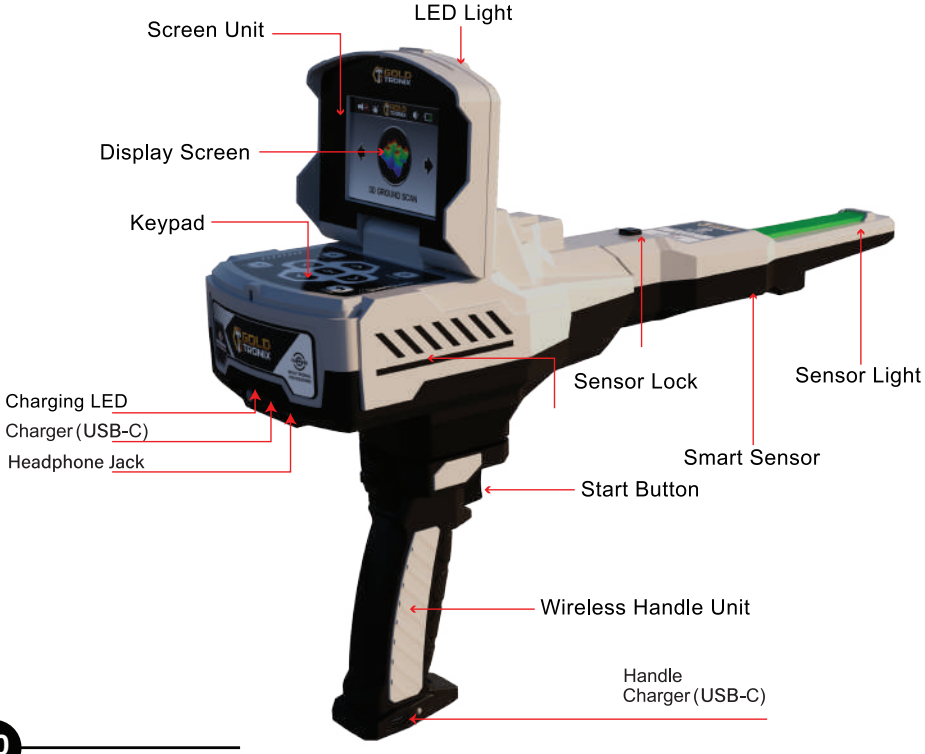


User Manual

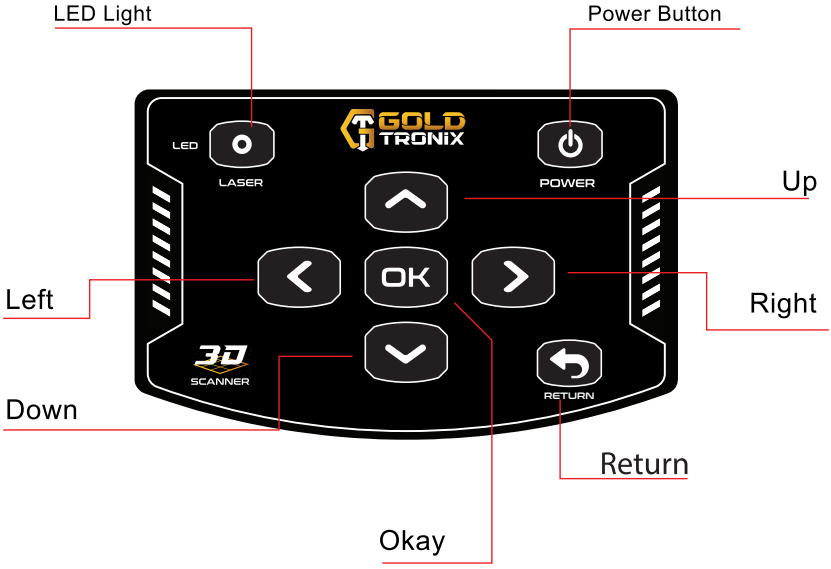
Package contents

1	Main unit
2	GEO Matrix Sensor
3	Wireless Handle
4	Charger
5	Charger Cable
6	User Manual
7	Warranty Card

Device Overview



Keypad Overview



Device Assembly

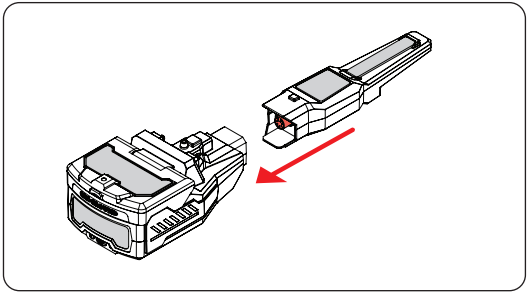
Safety First

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

Connect the GEO Matrix Sensor

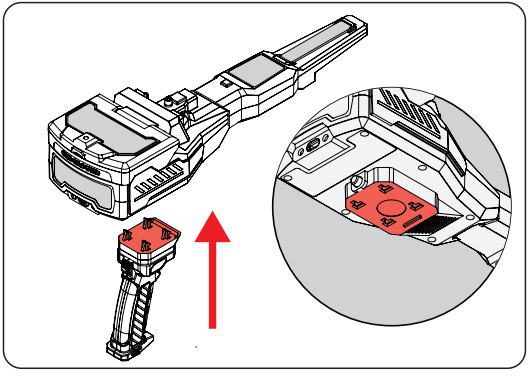
Align and plug the GEO Matrix sensor securely into its designated socket on the front of the main device unit.

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.



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.

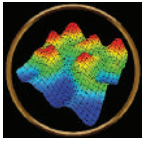
1. 3D Ground Scan:

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.

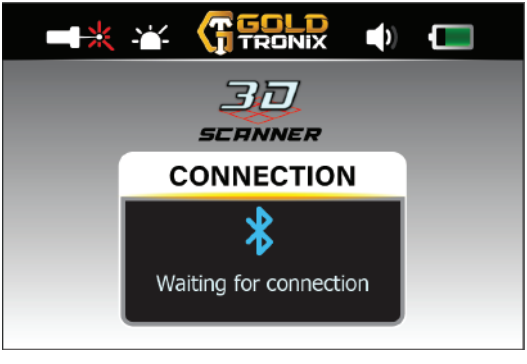
2. Live Scan

Designed for real-time underground exploration, the Live Scan system on the Gold Tronix 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.



3D Ground Scan:

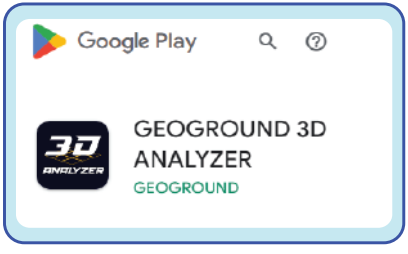
To use the 3D ground scanning system, select it from the main menu to open the connection screen for your Android device. Stay on this screen and perform the required settings on your Android device.



GEOGROUND 3D ANALYZER

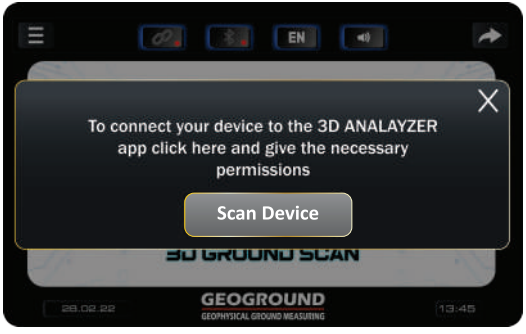
The new Gold Tronix device comes with a 3D scanning system. This system, along with other systems in the device, makes it easier for explorers to reach their goals.
The 3D scanning system with the ability to detect holes and ionized metals and display them in the form of colors and categorized values 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.



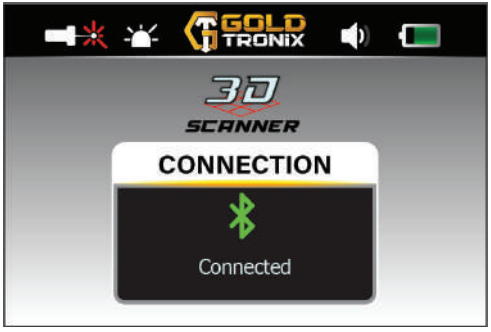
Users can also scan this QR code to open the app's download page directly in Google Play.

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.

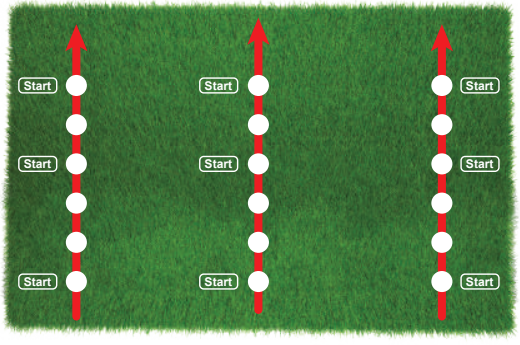
After entering the 3D ground scanning option in the main menu, the 3D system settings screen will appear.
On this screen, the user must adjust the scan settings according to the area and target.



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.



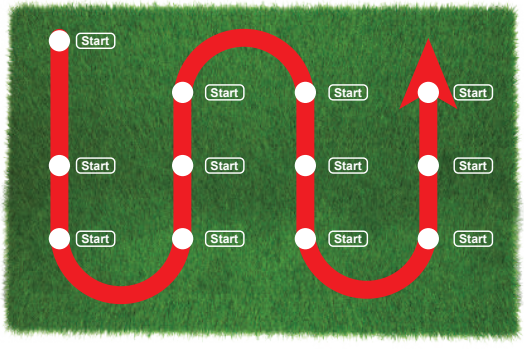
III **Parallel Path:**

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).

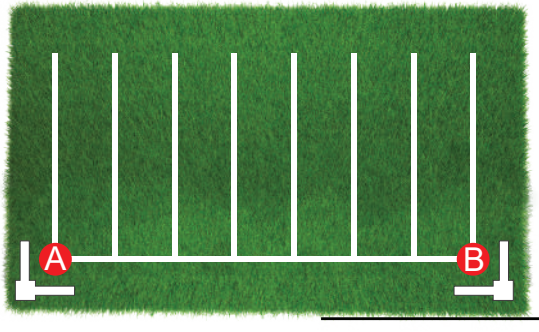
Zigzag Path:

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.

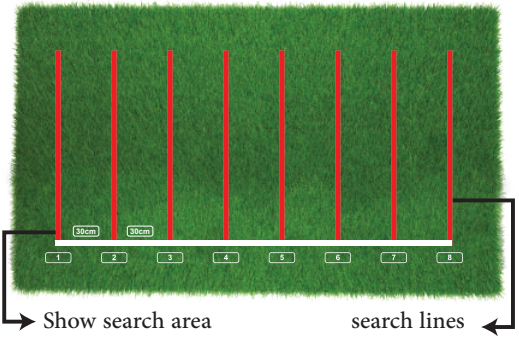


2- Direction: Starting corner of the search area.

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.

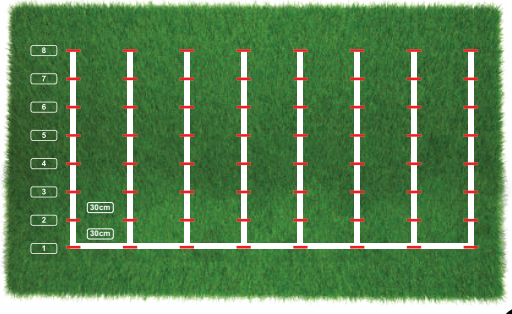


3-Lines:

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.



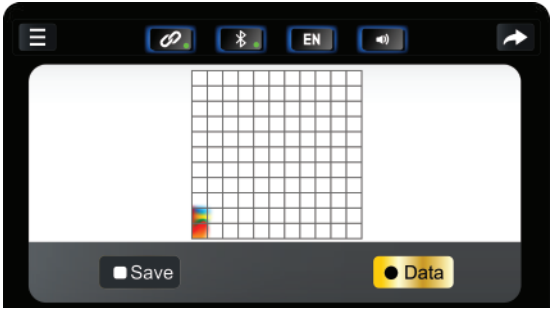
5- Type :

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.

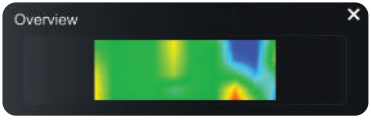
After completing all the previous settings, we press the "Start Scan" button at the bottom of the screen.. Skip the video tutorial and start searching with the previous settings.



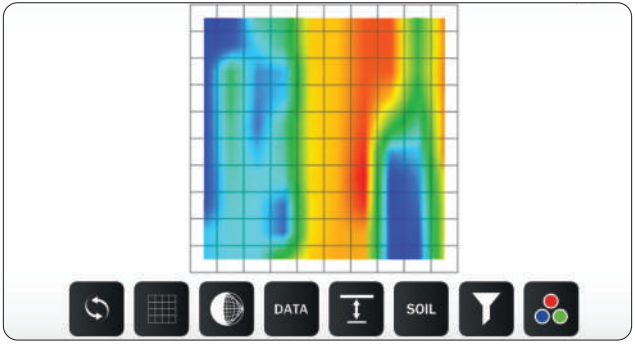
We will notice that with every step we take in the paths, the application will start drawing 3D details. Complete the search process as we prepared it until a window appears on the screen stating that the search process has been completed successfully.



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

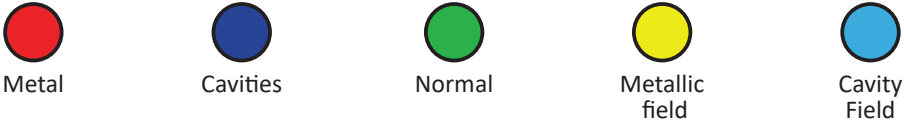


By selecting a file from the saved-file list, the user can access several analysis tools.

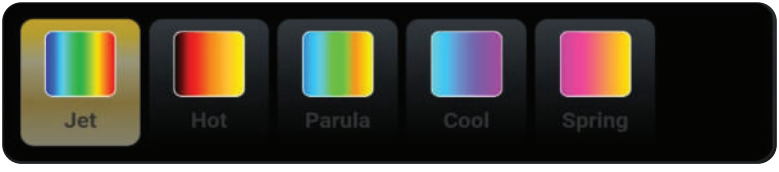


1-Reset&drawing view for the automatic and main mode.
2-The ground grid or the surface of the search area.
3-The wireframe or solid vision of the drawing.
4-Search results data.
5-The approximate depth in each search box (grid cell)
6-Soil type for the search area: choose the appropriate type of soil 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

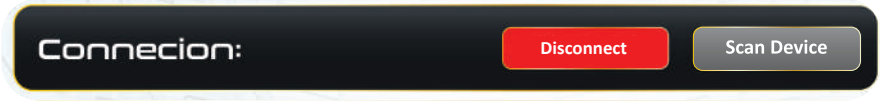




We can also change the language faster by returning to the main menu and pressing the language icon on the top bar. A list of the eight available languages will appear.

Connection

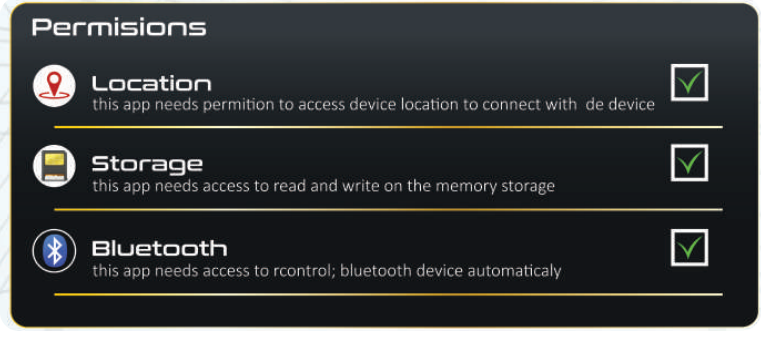
From the connection option in the settings, we can access the option to connect the device to the application, or to disconnect the device. We can also access the speed dial feature from the dial icon in the top bar of the main menu.



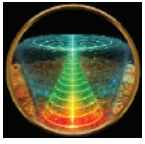
We also recommend turning on Bluetooth before starting to connect the device, or to give permission to the application to automatically open Bluetooth technology. We can turn on Bluetooth from the Bluetooth icon present in the status bar.

Permissions

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



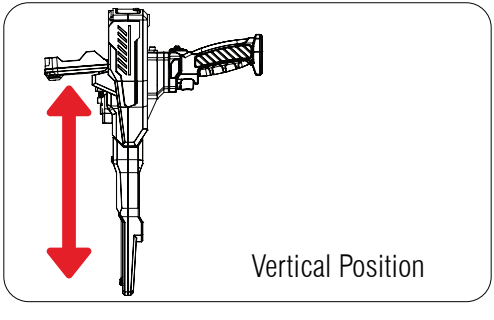
In order to access information about the Geoground company or information about the device connected to the application, we can click on the right pop-up window.



Live Scan



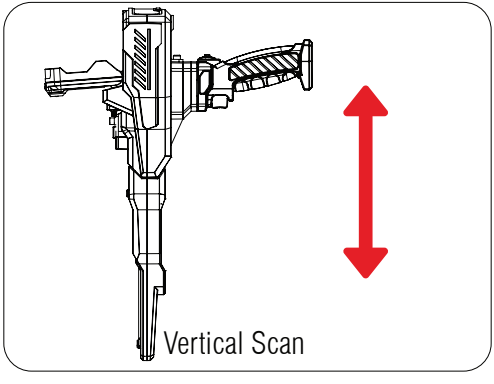
To use the Live Scan system, select it from the main menu.
First, the system asks you to hold the device correctly and then press the start button to perform the calibration process.
For this system, hold the device in a fully vertical position, and then press the start button.





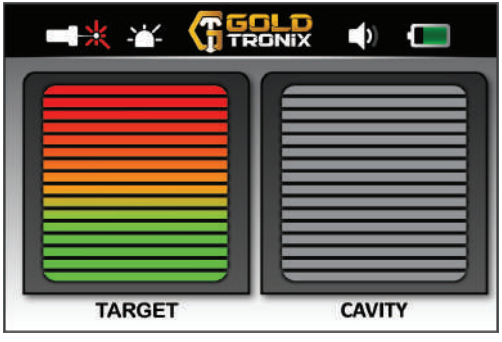
By pressing the start button, wait until the calibration process is completed. Then you will enter the main screen of the system.

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.

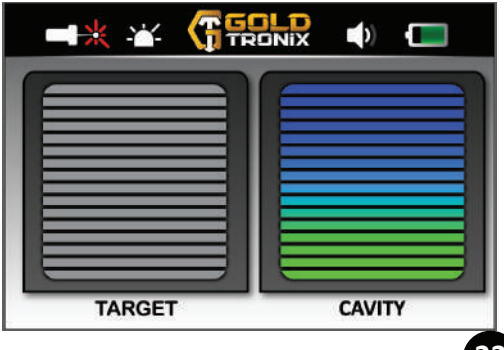


On this page, there are two bars: the left column displays the findings for metal searches, and the right column displays the findings for underground cavities and voids.

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.





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

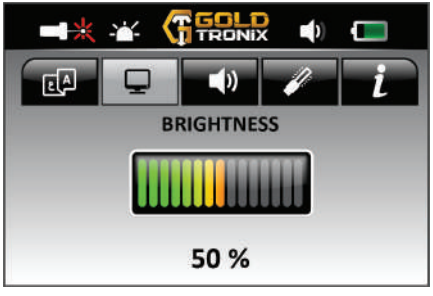
This option allows you to configure and change the display language of the system interface to match your preference.
Navigate to the Language icon, select your desired language option from the list and confirm to apply the changes across the system.



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

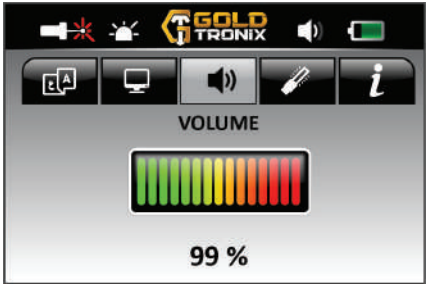


Brightness



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.

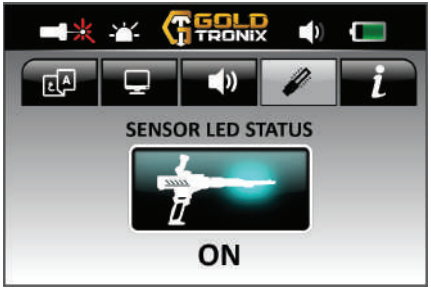
Brightness



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 Tronix) in the center of the bar.

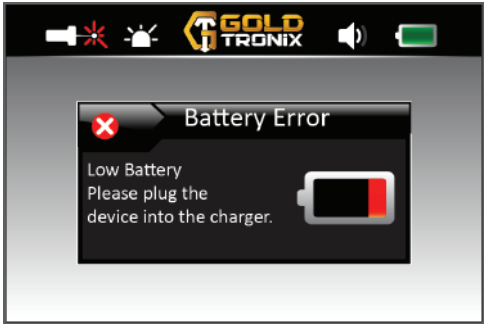
Volume Indicator: Shows the active audio/sound volume status of the device.

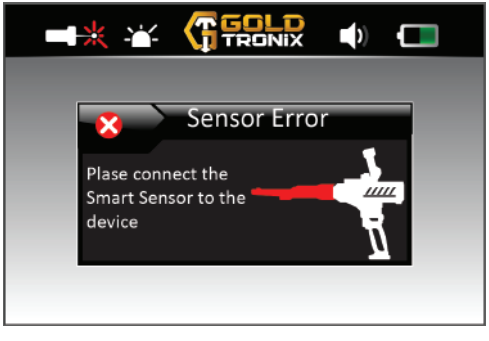
Battery Status: Displays the current power level of the battery with a visual indicator bar.

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.



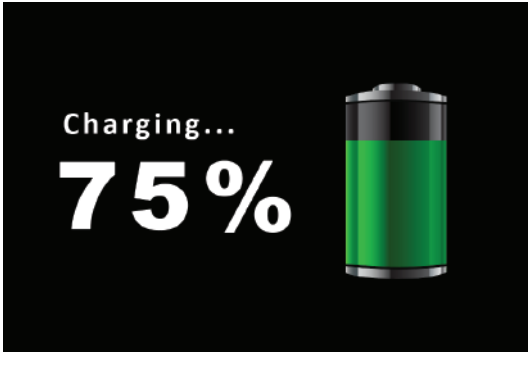


Charging the Device:

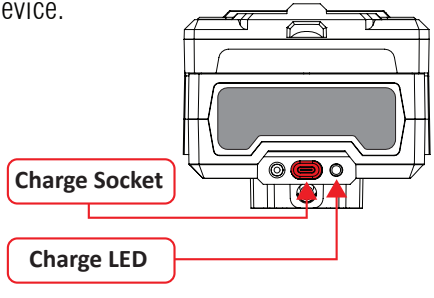
Since the device consists of two rechargeable components (the main unit and the wireless handle), each of them must be connected to the charger separately.

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.



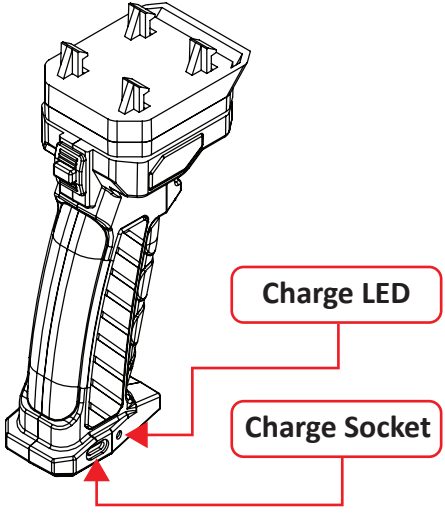
When the device is turned off and connected to the charger, a charging screen is displayed, allowing you to check the current battery level of the device.



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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