

# GREAT NEUTRON USER MANUAL



# 2

## Search Systems

- 3D Ground Scan
- Discrimination



*Great detectors*

**GRT**



[www.greatdetectors.com](http://www.greatdetectors.com)

## Introduction

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We are the first great detectors company in the world in the field of manufacturing and selling gold prospecting devices, burials and precious treasures. We started our work since 2012 in the manufacture and sale of hardware products specialized in the search for minerals, gold and groundwater, so we became one of the first to manufacture and sell the best devices in the world, this experience is the result of our love to be the best and highest professional we work with.

We are not the only ones in this field, but we excel in our products and our work, we are Great Detector Company, we work through direct sales and agents located all over the world, we manufacture and sell all the original Turkish Great detectors products in the world and we are the only exclusive agents in the world for these products, our company is headquartered in Turkey in Istanbul, you can contact us through the information provided at the bottom of the web or through the web page to contact us.



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# Package Content

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GRT Neutron Device



OTG Cable



Tablet Holder



Android Tablet



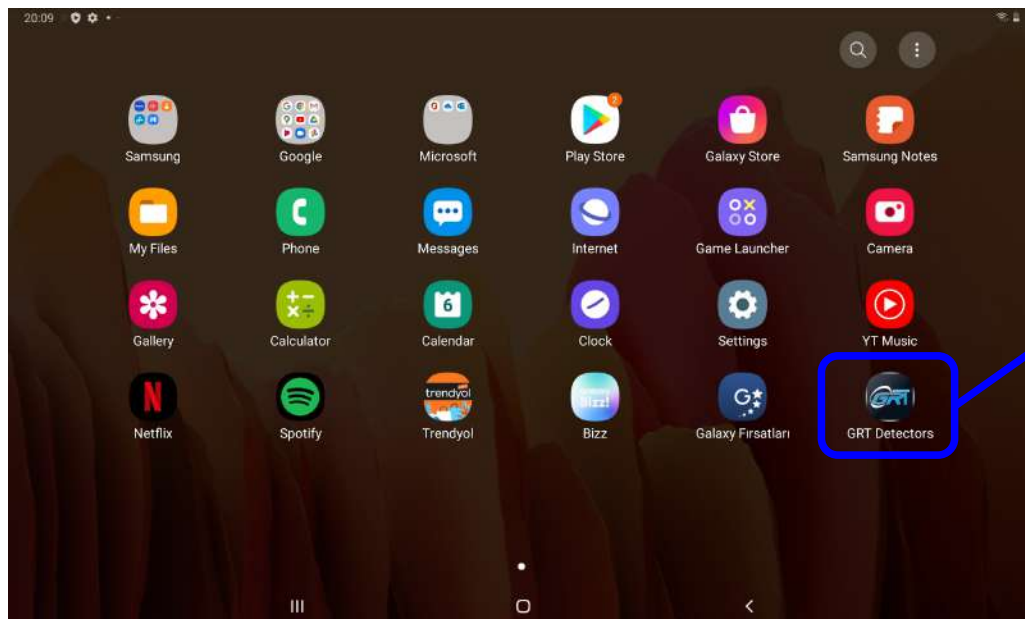
## Installation

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To start using the device follow the below steps:

1. Put and connect the tablet holder on the device.
2. Connect the USB cable of the device to the OTG cable
3. Connect the micro usb side of the OTG to the Android device.
4. Turn the device on using the ON/OFF Button on the device

when all above steps done; select the GRT app from the list of available apps in your Android device.



## Select Language & Device

After opening the application, wait for below screen to end and redirect to the first page in application.



### Language and device model selection page

On this page, the user can use the left or right keys to change the language of the application. Each time you click on the left or right keys, the program language changes directly.

At the bottom of this page, there is a list of GRT manufacturing devices that the user can select from the list the device that he own.

After selecting the language and selecting the correct device, click on the **connect** button.

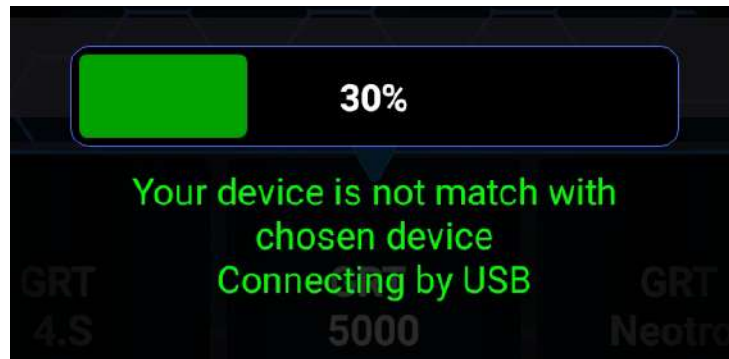




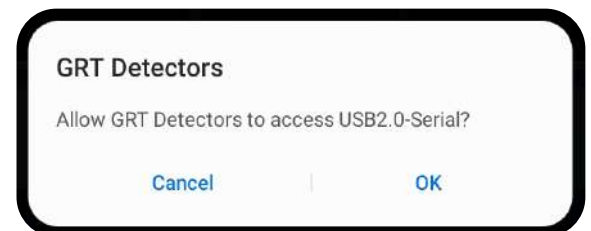
## Connecting to Device

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**Note:** If the user selects a device different than the device connected to the Android device, a message will show that **“Your device is not matches whit the choosen device ”**and the program will not be transferred to the next steps and will remain on the same page.



**Note:** if you have just connected the device to an Android device, you will see a message that android asking for a USB connection permission. Click OK to accept then click the **Connect** again and wait for the connection to be established.



# System Selecting

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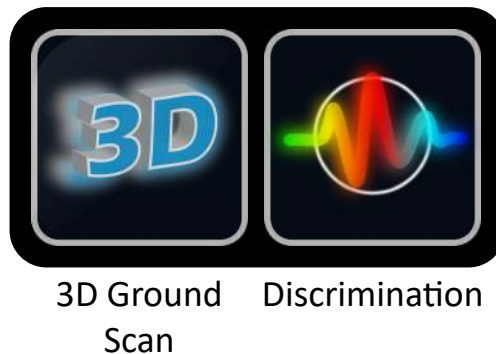
## System selection page

After the previous steps, you will see the page below, which includes all the active systems for your device



**Note:** *The number of active systems depends on the device model.*

below is the systems which is active for **GRT Neutron Detectors**



## 3D Ground Scan

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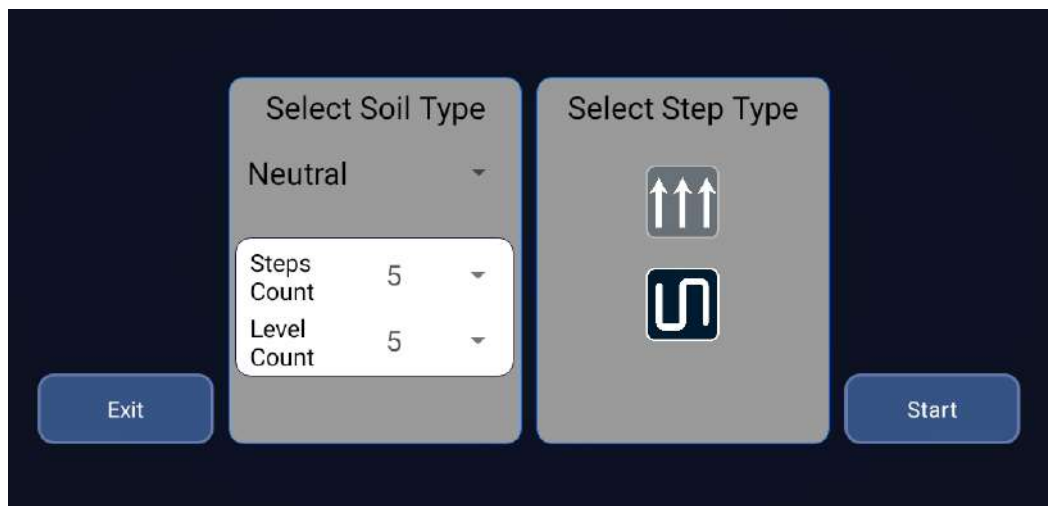


### 3D Ground Scan

The 3D ground scan system in the GRT device uses the latest technology to send and receive signals in the device direction and using a 3D analyzer is able to draw a 3D diagram of possible objects in the underground.

#### How to use

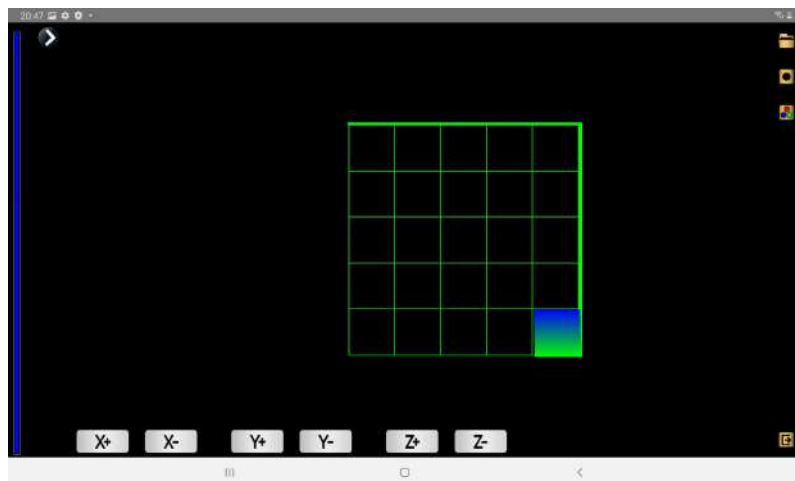
After completing the connections and opening the application and selecting 3D scan system, you will see a page where you have to set the soil type, number of steps, number of scan lines and type of moving direction before searching.



Set the above setting and press on Start to open scan page

## 3D Ground Scan

Then stand in the desired location and place the device perpendicular to the ground at a distance of 5 to 10 cm from the ground. Depending on the Android screen, press the scan button on the device once with each step (with minimum one second between each pressing). And wait for the result of each scan to appear on the screen.



**Note:** *If you do not see a change in the display after pressing the scan button, press the scan button again without taking the next step.*

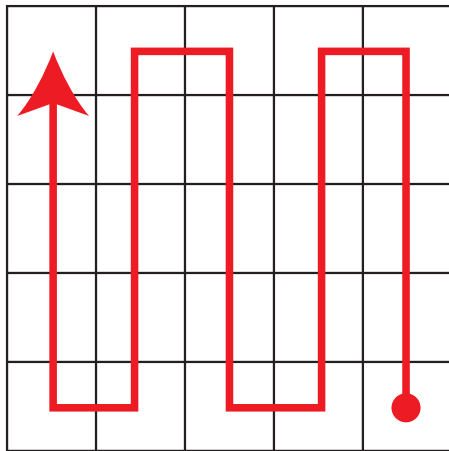
*Continue until you reach the end of the line, then move on to the next line and start the scan again.*

**Note:** *for better and exact result you have to press on start exactly every 30 cm per each step.*

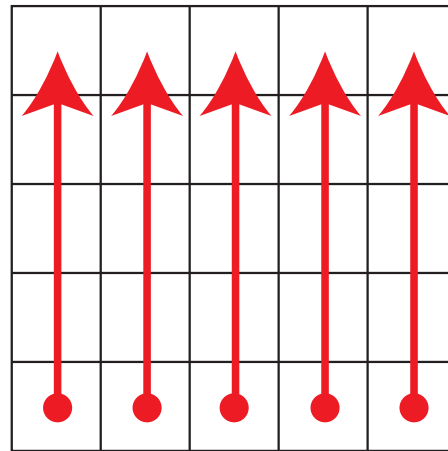
## 3D Ground Scan

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**Note:** *If you have selected the zigzag mode, you must do the scan in a zigzag pattern, and if you have selected the parallel mode, the scan must be done in parallel pattern.*



*in zigzag mode user has to scan points as a continuable line with zigzag pattern*



*in parallel mode user has to scan points line by line. it means that after each line user must return back to the first row and start again in the next line.*






If you reach the end of the finish line, the device will no longer accept data. And it means the scan is complete.

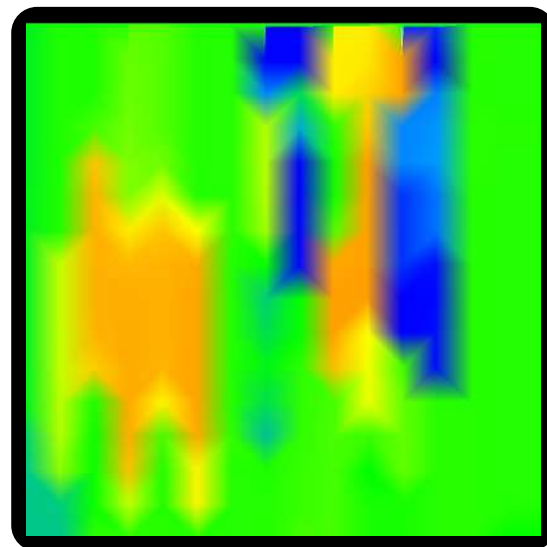
**Note:** *the end point is depended on the setting which user chossed before start scanning..*

## Diagram analysis

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The output diagram by the 3D scanning system has a range of different colors, which are described below:

-  Blue: If there is any underground tunnel or hole, the color of the graph will change to blue.
-  Light blue: If there is any tunnel or hole in a small distance from the device, the color of the graph will change to light blue.
-  Green: This color represents a completely ordinary earth without any potential minerals or treasures.
-  Yellow or Portuguese: If there is any non-precious metal or a small earth size meaning, the color of the graph will change to yellow or Portuguese.
-  Red: If there is treasure or precious metals below the scanned area, the color of the graph will change to this color.



*Diagram with 3 different colors sample*

## Scanned files

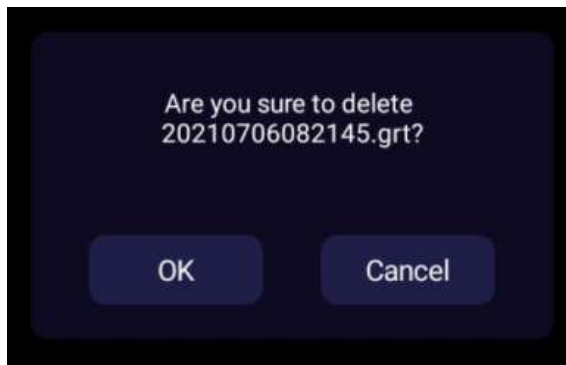
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All scanned diagrams will be saved saved automatically after closing 3D scan screen.



To re-view the file (s), the user can click on the file icon on the right side of the scan screen. a list will open wich includes all previously scanned files.

**Note:** *By long click on each file in the file list, a message will appear that allows the user to delete the file.*



*a message to confirm delete file*



## 3D Screen Controlers

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### **Screen reset**

Use this icon to reset the diagram on the screen on top view

### **Diagram Setting**

user can use this option to change the appearance of the 3D diagram or its color. Clicking on this icon will open a sliding window that has the following options:

#### **Red compress:**

By increasing and decreasing the red slider bar, you can increase or decrease the intensity of the red color density in the chart.

#### **Blue compress:**

By increasing and decreasing the blue slider bar, you can increase or decrease the intensity of the blue color density in the chart.

#### **Reset:**

By clicking on this option, the above color settings can be reset to the default.





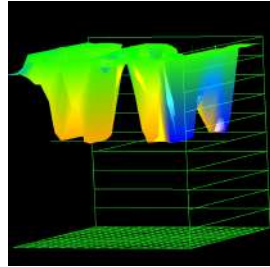
## 3D Screen Controlers

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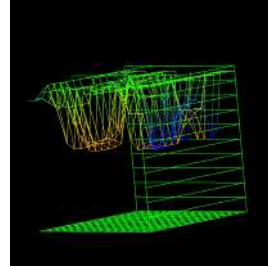


### Grid mode:

By clicking on this option, the shape of the graph changes from a surface mode to a network mode. Clicking again on this option will change the shape of the chart to flat again.

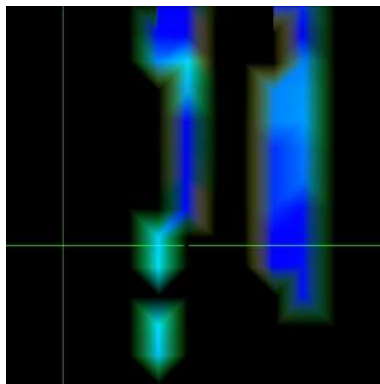
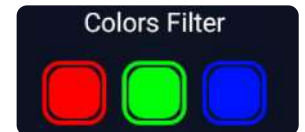


Solid Mode

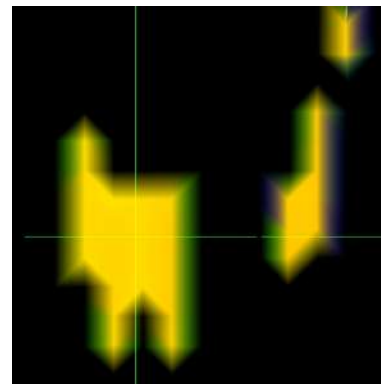


Grid Mode

**Colors Filter:** Using these three color buttons, you can remove or re-add the desired color from the diagram. This option is used to better detect the desired colors in complex scans.



Blue Color Filtered



Red Color Filtered

## 3D Screen Controlers

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### Point Locating

Using these options, you can point to a specific feature and check the depth of that point.

X + and X-: to control the location of the line perpendicular on the surface.

Y + and Y-: Used to control the location of the horizontal line on the surface

Z + and Z-: Used to control the location of vertical and horizontal lines on surfaces for depth measuring depth.



use this icon to open a view which includes four different parameters on the screen.



1. Value: shows the each scan value while scanning.
2. Deep: shows the deep of the located point on the diagram.
3. Level: shows the level value (cm)
4. Step: shows the step value (cm)



Use this icon to exit 3D scan screen

## Discromination

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### Discrimination

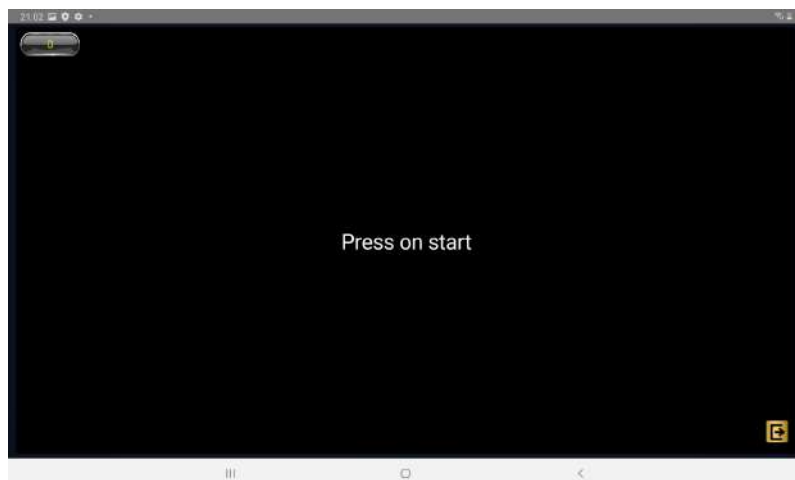
This system determines whether the burial is valuable or worthless by sending and receiving pulses through the device sensor and analyzing the received pulses. It is recommended to use this system when excavating the burial through a 3D scanning system and to ensure the value of the burial before excavation.

### How to use

After discovering the tomb and determining its approximate point by the 3D scanning system, enter this system through the main menu on the Android device. by selecting this item a black and empty window will open that Notices **“press on start”**.



Press and hold the Scan Button



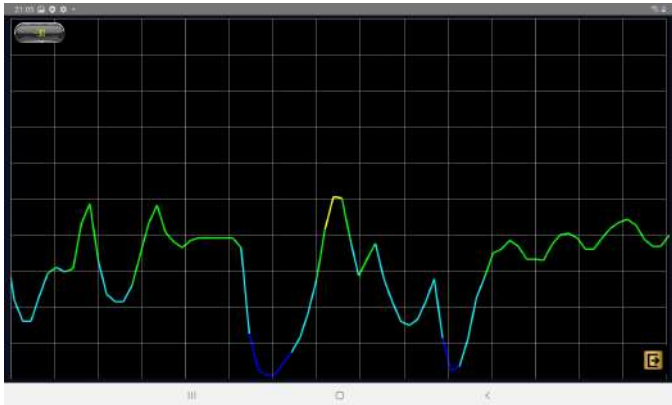
## Discromination

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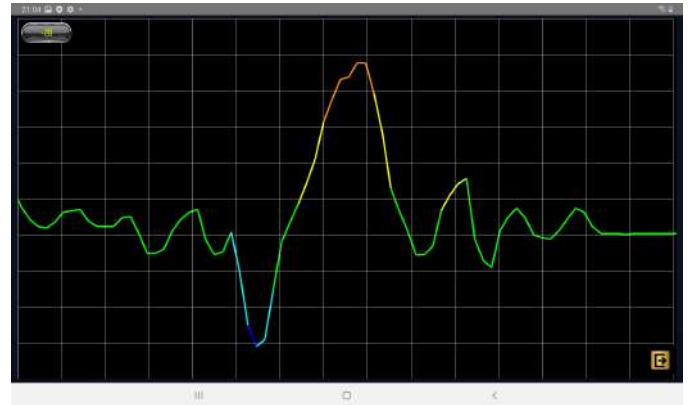
Position the device perpendicular to the desired point and press the Scan button on the device (press and hold). Then start moving slowly and in one direction. A graph is displayed on the screen of the Android device, which can be analyzed to determine the buried value.

Below are examples of different diagrams.

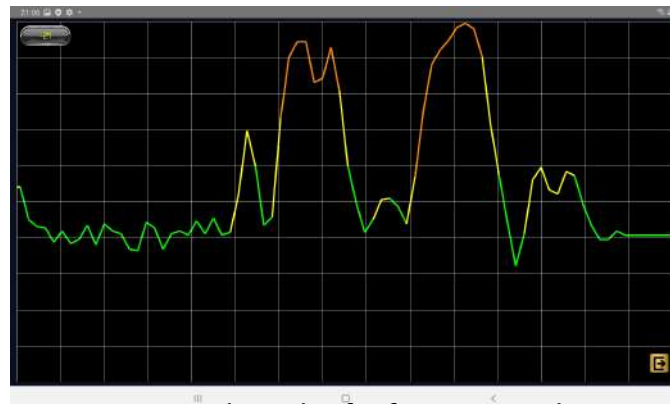
**Note:** The Distance between the probe head and the surface of the earth must be 5 to 10 cm



Example graph for cavity



example graph for non ferrous metals



example grahph for ferrous metals