OKM

USER MANUAL

TRANSPORTATION & STORAGE
SCOPE OF DELIVERY
ASSEMBLY
GETTING STARTED
OPERATIONS
MAINTENANCE
TROUBLESHOOTING
DISPOSAL
TECHNICAL SPECIFICATIONS
REPS & WARRANTIES

OKM® eXp 7000 Professional Plus

Detector for Treasure Hunting and Archaeology

MODEL: X7-A01

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U.S. Edition | English
Version 1.0 | October 2025

Do not drink any alcohol or take any drugs before or during the operation of the device and follow the instructions carefully!

NOTICE

Read all instructions first before commencing the assembly and usage!

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NOTICE

The search for historical and archaeological artifacts and structures may be regulated in different ways from state to state. Searching with a detector may require approvals and permissions from landowners, public agencies and/or government authorities.
With the purchase of the OKM detector you DO NOT automatically receive a detection permit or excavation permit! Consult the authorities responsible for your search project and/or area for information on required permits.

DISCLAIMER

The metal detector referred to in this manual has been specifically designed and manufactured as a high-quality ground scanner and is recommended for treasure hunting in non-hazardous environments. This metal detector has not been designed as a mine detector.

NOTICE

All artifacts found on public lands are protected by state and federal laws. It is illegal to collect artifacts on public lands. Artifacts include anything made or used by humans including arrowheads and flakes, pottery, basketry, rock art, bottles, coins, metal pieces, and even old cans. Ancient objects that are found on private land are legal for individuals to collect with written permission from the landowner and legal for individuals to own under the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA).
However, these objects could be subject to a civil claim of superior title by a tribe. Other requirements depend on the state. If you are interested in collecting or metal detecting on private property, contact your State Historic Preservation Office for more information.
Before collecting minerals found, familiarize yourself with the rules stated on the Bureau of Land Management Website for your State.

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TRANSPORTATION & STORAGE

1 TRANSPORTATION AND STORAGE

Protect your detector and accessories by storing them in the Protector Case in a cool, dry place (50 to 75 °F | 10 to 25 °C). Unplug the probe from the Control Unit and power off the Control Unit before packing the device and its accessories into the case.

Use the Protector Case for the intended purpose only. Keep away from children!

DANGER

CHOKING AND ASPHYXIATION HAZARD!
A Cover is Not a Toy! Keep Away from Children!

Please note: The rear part of the Carrying Rod contains a built-in weight. Please lift and carry with care, taking care not to damage people or objects in the immediate vicinity.

When shipping, use the original cardboard boxes or similar heavy-duty containers and provide sufficient padding around all parts. In addition, we recommend using the Transport Safety Locks to secure the detachable Carrying Rod in the case.

1.1 AVOID EXTREME TEMPERATURES AND MOISTURE

Protect your device from extreme temperatures as well as dust and moisture during transportation and storage.

1.2 CHECK BATTERY STATUS REGULARLY

Check the detector regularly if it is not used for a long time. When storing the eXp 7000 for long periods of time, avoid completely discharging of the battery. Instead, recharge the battery at least every 3 months and up to approx. 90 % of the maximum charge capacity.

SCOPE OF DELIVERY

2 SCOPE OF DELIVERY AND CONTROL ELEMENTS

I	Super Sensor	✓
II	Windows Notebook with *Visualizer 3D Studio*	✓
III	Protector Case	✓
IV	Detachable Carrying Rod	✓
V	Telescopic Rod	✓
VI	VLF Coil	✓
VII	4 Protective Caps	✓
VIII	4 Extenders	✓
IX	Control Unit	✓
X	Backstrap	✓
XI	USB Flash Drive	✓
XII	Open-Ear Headphones	✓
XIII	Charger and Travel Adapters	✓
XIV	USB-C Cable	✓
XV	Power Pack	✓

2.1 CONTROL UNIT

I	Touchscreen – see 4.3 Main Menu and Navigation on page 18.
II	Brightness sensor – see 4.5.1 Display on page 20. **Please do not cover the brightness sensor.**
III	Speakers – see 4.5.2 Sound on page 20.
IV	LEDs to show Transfer Mode, Bluetooth states – see 4.6 Pair/Connect Bluetooth Headphones on page 24 – and charging states – see 4.1.3 Battery Level and Charging State on page 17.
V	Ventilation openings to ensure adequate cooling of the internal processing units. **Do never cover the ventilation openings!**
VI	Knob for switching on the Control Unit – see 4.2 Switch On the Control Unit on page 18 – and as an alternative to the touchscreen.
VII	Eyelets for carabiners (snap hooks) – see 3.4 Backstrap + Control Unit on page 15.
VIII	Probe socket
IX	Battery compartment – see 6.2 Replace Internal Battery on page 79.
X	Label with device information like serial number and model number.
XI	USB-C socket for file transfer – see 5.12.6 Transfer Files on page 76, and battery charging – see 4.1.2 Charge Battery on page 17.

2.2 SUPERSENSE SYSTEM

The SuperSense System comprises the Super Sensor with LED Orbit and 4 sensor modules, so-called ***Extenders***. These can be plugged into any of the Super Sensor sockets. The SuperSense system offers 4 possible combinations – suitable for different measuring environments. For more information and correct assembly see 3.2 SuperSense System on page 13.

An arrow at the top of the Super Sensor indicates the direction of measurement.
The LED Orbit at the lower end of the Super Sensor displays scanning states and results.

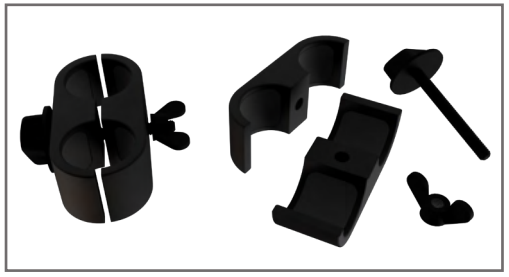
I	Super Sensor with arrow on top of the probe
II	Probe plug
III	LED Orbit (12 LEDs)
IV	Plugs/Sockets (4x Super Sensor + 4x Extenders)
V	Threaded caps (4x)

If no Extenders are connected to the Super Sensor, we recommend using the Protective Caps to protect the open sockets from moisture or dirt.

2.3 DETACHABLE CARRYING ROD

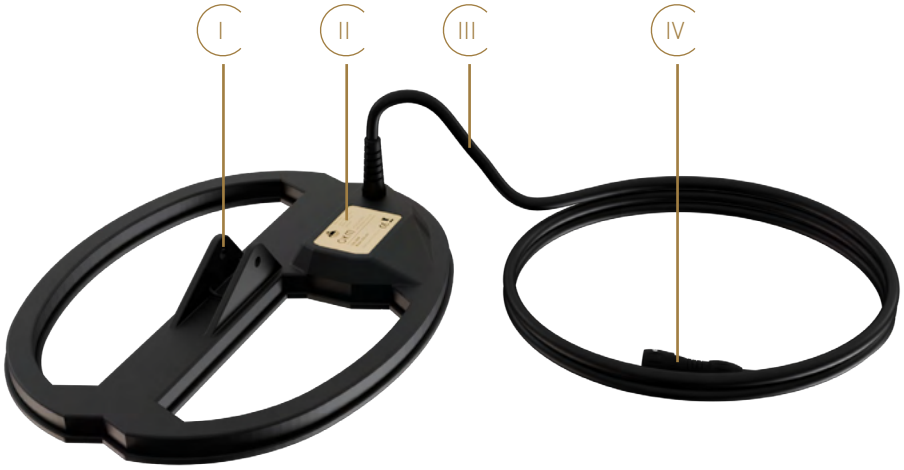
The SuperSense System can either be carried by hand or by using the SuperSense Rod.
For correct assembly see 3.3 Detachable Carrying Rod on page 14.

I	Sensor clamp with non-slip skin inside
II	Thread for probe mount
III	Probe mount with threaded cap (front part of carrying rod)
IV	Handle (front part of carrying rod)
V	Midsection



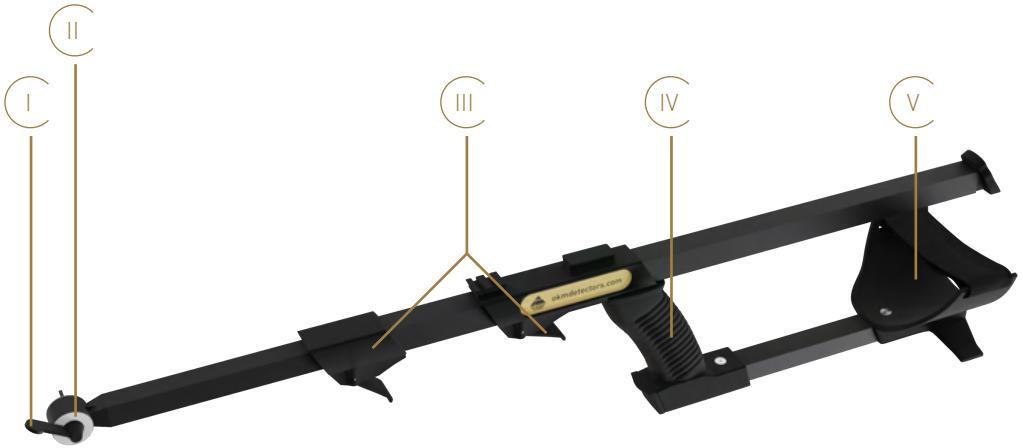
In the original packaging, the front part and midsection are connected by Transport Safety Locks. These must first be removed in order to assemble the rod. Moreover, the rear part of the Carrying Rod contains a built-in weight. Please lift and carry with care, taking care not to damage people or objects in your vicinity.

2.4 VLF COIL



I	Shaft adapter
II	Label with device information like serial number and model number.
III	Probe cable
IV	Probe plug

2.5 TELESCOPIC ROD



I	Mounting screw
II	Rubber washers
III	Locking levers
IV	Handle
V	Armrest with velcro

2.6 CHARGER AND TRAVEL ADAPTERS

The Control Unit is charged via charger. For detailed information see 4.1.2 Charge Battery on page 17. In some countries the use of the Travel Adapters may be required.

2.7 BLUETOOTH HEADPHONES

The Control Unit can be paired with wireless headphones via Bluetooth – see 4.6 Pair/Connect Bluetooth Headphones on page 24. For more information on settings refer to the headphones manual.

2.8 PROTECTOR CASE

The device and its accessories are stored and transported in a Protector Case – see 1 TRANSPORTATION AND STORAGE on page 5. For further information, refer to the Protector Case Care and Instructions.

NOTES

ASSEMBLY

3 ASSEMBLY

3.1 NECESSARY TOOLS

No additional tools are required to assemble the OKM eXp 7000 Professional Plus.

Do not open the device and/or accessories. There are no end user serviceable parts inside. To replace the internal battery, see 6.2 Replace Internal Battery on page 79.

Probes shall always be attached in the prescribed way matching the probe socket.

NOTICE

Make sure the probe sockets and plugs are clean before assembly!

3.2 SUPERSENSE SYSTEM

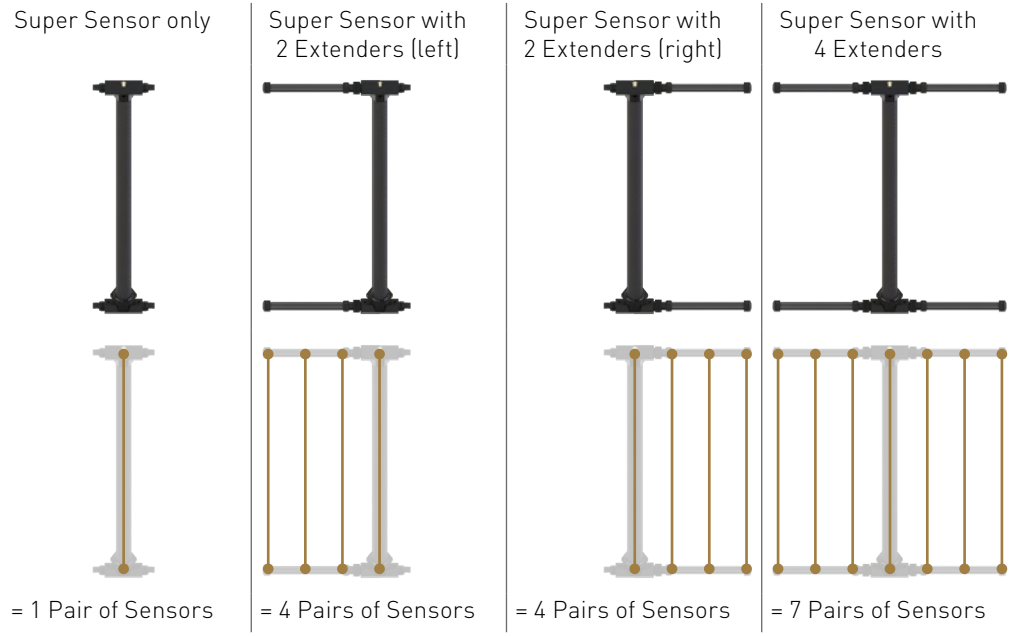
3.2.1 Connect Extenders

The sensor modules are identical and therefore interchangeable.

Unscrew the Protective Caps from the Super Sensor.

Attach the Extenders. Secure the modules with the threaded caps.

3.2.2 Extender Configurations



If you attach 2 Extenders, they must both be plugged in at the bottom and top on the same side (right OR left). The pairs of sensors must be complete in order to work properly.

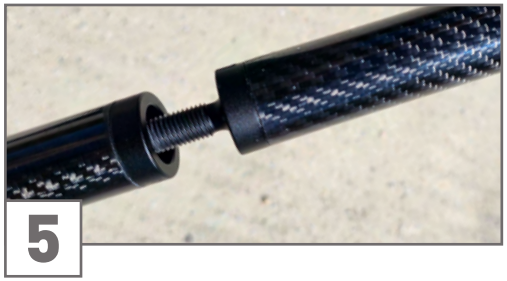
3.3 DETACHABLE CARRYING ROD

Remove the Transport Safety Locks.

Open the sensor clamp, position the Super Sensor at the correct height (arrow pointing in scan direction), and close the clamp again.

Screw the threaded cap (front part of the detachable Carrying Rod) to the sensor clamp to secure it.

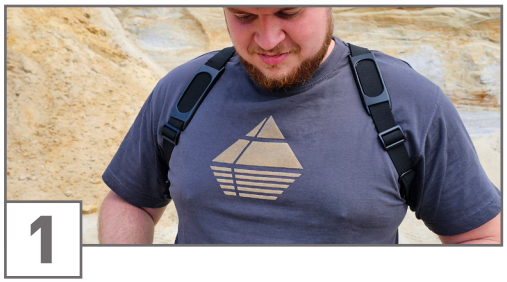
Screw the midsection of the Carrying Rod to the front part.



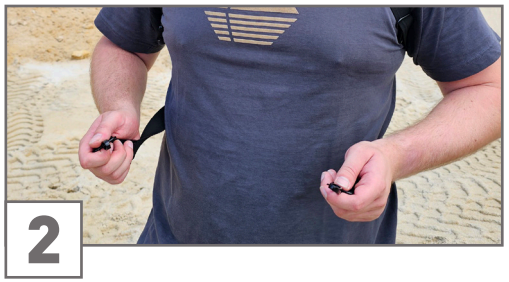
Screw the rear part of the Carrying Rod (counterweight) to the midsection.

Alternatively, the Super Sensor/SuperSense System can be carried in the hand without using the SuperSense Rod. Make sure there is sufficient distance between the Control Unit and the sensors.

3.4 BACKSTRAP AND CONTROL UNIT



Put on the backstrap: Place the upper straps around your shoulders like a backpack.



For easier attachment, we recommend temporarily linking the carabiners of the lower straps.

Attach the Control Unit to the upper carabiners.

Lift the Control Unit to see the socket at the rear, and plug in the probe.

Align the white markings, push the plug into the socket, and rotate the plug cap clockwise to fix the plug.

Attach the Control Unit to the lower carabiners.

3.5 VLF COIL AND TELESCOPIC ROD

Unscrew the mounting screw from the coil mount at the Telescopic Rod. Make sure the rubber washers are seated next to the shaft before attaching the VLF Coil.

Insert the coil mount of the Telescopic Rod into the shaft adapter of the VLF Coil.
Fix it with the mounting screw and tighten it so that the coil does not move.

Use the locking levers to loosen the single segments of the Telescopic Rod.

Adjust the Telescopic Rod to your body height to allow for more comfort while working with the detector. Lock the levers to fix the height.

Wrap the cable tightly around the Telescopic Rod to avoid false signals while detecting.

Plug the probe into the Control Unit – see 3.4 Backstrap + Control Unit on page 15.

GETTING STARTED

4 GETTING STARTED

4.1 INTERNAL BATTERY

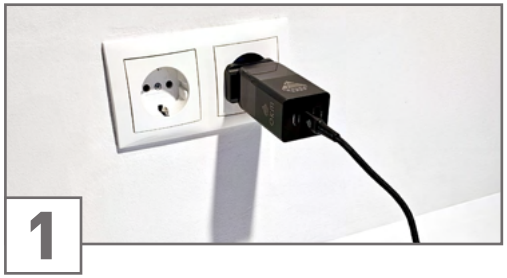
Fully charge the Control Unit.

To charge the internal battery, connect the charger from the power supply to the designated charger socket. Use the travel adapters to enable a connection between the charger and your regional power socket.

4.1.1 Check Battery Level

Press the Knob for 2 s to check the battery level – see 4.1.3 Battery Level and Charging State on page 17.

4.1.2 Charge Battery



Plug the charger into the power socket and the charging cable (USB-C) into the charger.

Locate the Control Unit charger socket and remove the protection cap.

Plug the opposite end of the charging cable into the Control Unit to start charging.

Wait until the Control Unit is charged. It can take up to 4 h to fully charge the battery.

4.1.3 Battery Level and Charging State

If the Control Unit is powered OFF, the battery level/charging state is indicated by the LED Strip above the Knob (press and hold for approx. 2 s) – see table below.

If the Control Unit is powered ON, the battery level/charging level is indicated by the icon in the top right corner. Further battery details are displayed in Settings > Battery – see 4.5.4 Battery on page 21.

LED Strip (battery level)	LED Strip (charging level)	Battery Level	Charging State	Battery Level in %
				100%
				~ 90%
				~ 80%
				~ 70%
				~ 60%
				~ 50%
				~ 40%
				~ 30%
				~ 20%
				~ 10%
				< 5%

4.2 SWITCH ON THE CONTROL UNIT

Unfold the display. Press and hold the Knob for 5 s to switch on the Control Unit. While the knob is pressed, the battery level LEDs are flashing – see 4.1.3 Battery Level and Charging State on page 17. The startup process is indicated by a discreet acoustic signal and a golden LED animation.

It can take several seconds to fully boot the Control Unit. During this process, the OKM logo is displayed and a startup melody is played. This startup sound can be turned off – see 4.5.2 Sound on page 20. Wait until the Control Unit is ready.

4.3 MAIN MENU AND NAVIGATION

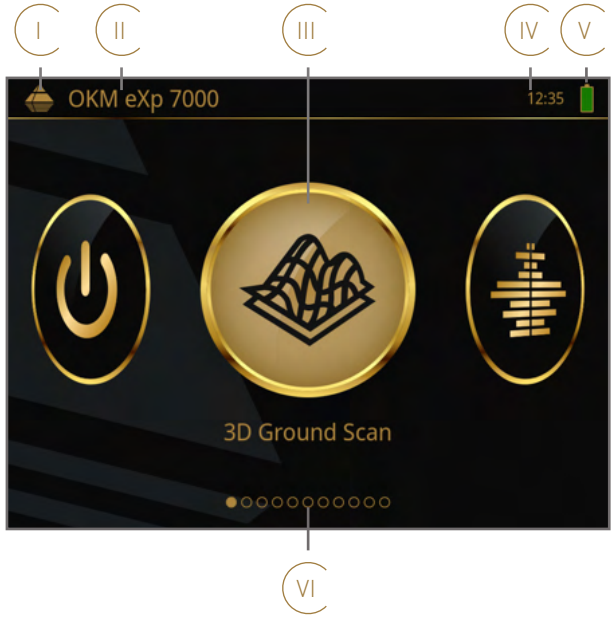
Start screen – without connected probe.

Start screen when Super Sensor or SuperSense System is connected.

Start screen when VLF Coil is connected.

The application can be controlled by:

1. Touchscreen: Tap on the item to select/open the preferred option.
2. Knob: Rotate to move the selection frame from one item to another. Push the Knob to select/open the preferred option.



I	Screen icon shows the active menu/option.
II	Headline indicates the active menu/option.
III	Option: Tap to open the operating mode/option.
IV	Time and time format can be changed in Settings – see 4.5 Settings on page 19.
V	Battery level indicates the current battery level – see 4.1.3 Battery Level and Charging State on page 17.
VI	Page indicator shows your current position in the Main Menu.

4.4 WELCOME DIALOG

Usually, a Welcome Dialog is displayed the first time you start the Control Unit.

We recommend to personalize your regional settings first – see 4.5.5 Regional Preferences on page 22. To proceed, confirm with ✓ or cancel with ✕. Afterwards, this dialog will not appear again.

The dialog can be reactivated in Settings\Reset – see 4.5.6 Reset on page 23:

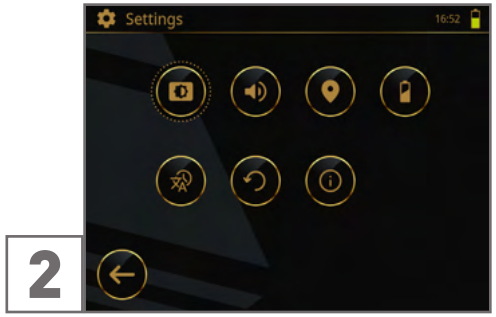
Tap on Welcome Dialog to (de)activate it.

If activated, this dialog will be shown the next time the Control Unit is started.

Also, this option will be reactivated as soon as the Control Unit is reset to factory defaults – see 4.5.6 Reset on page 23.

4.5 SETTINGS

Swipe to the left or right to browse through the Main Menu and select Settings.



Open the preferred Settings option.

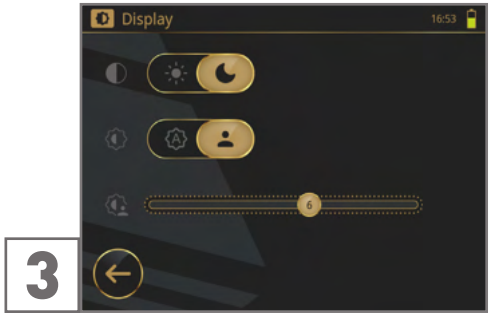
	Display	see 4.5.1 Display on page 20
	Sound	see 4.5.2 Sound on page 20
	Location	see 4.5.3 Location on page 21
	Battery	see 4.5.4 Battery on page 21
	Regional Preferences	see 4.5.5 Regional Preferences on page 22
	Reset	see 4.5.6 Reset on page 23
	Information	see 4.5.7 Information on page 23

4.5.1 Display

Toggle between the themes **Day** ...

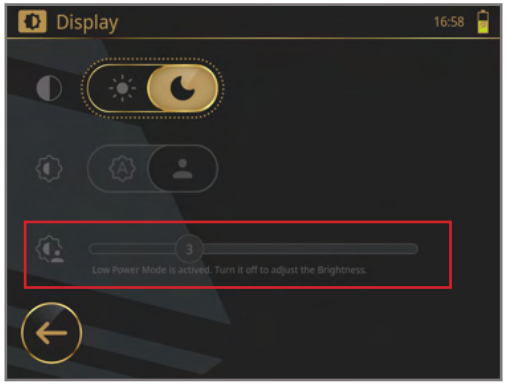
... and **Night**.

Select Automatic Brightness to allow the screen to adjust automatically to the ambient light.

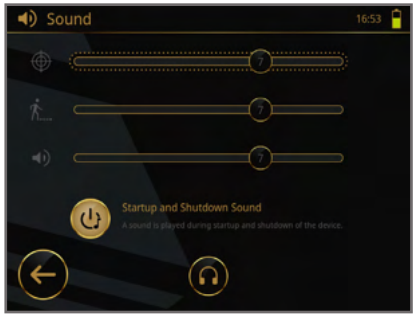


Select Manual Brightness and move the slider to adjust the screen brightness individually.

If Low Power Mode is actived, the screen brightness is set to 3 (or less) and cannot be adjusted individually. To adjust it, you must first deactivate the Low Power Mode – see 4.5.4 Battery on page 21.



4.5.2 Sound



To avoid attracting attention you may

- decrease the general volume,
- turn off the Startup and Shutdown Sound,
- or use Bluetooth headphones.

Move the first slider to adjust the Feedback Sound volume individually.

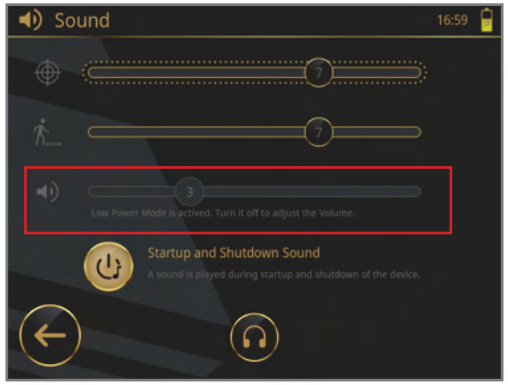
Move the second slider to adjust the Tempo Pulses Sound volume individually.

Move the third slider to adjust the general volume individually.

Tap on to switch on/off the Startup and Shutdown Sound.

Tap on to proceed with pairing/connecting Bluetooth headphones – see 4.6 Pair/Connect Bluetooth Headphones on page 24.

If Low Power Mode is actived, the general sound volume is set to 3 (or less) and cannot be adjusted individually. To adjust it, you must first deactivate the Low Power Mode – see 4.5.4 Battery on page 21.

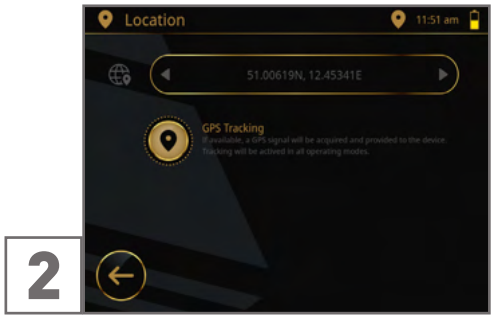


4.5.3 Location

The eXp 7000 is ready to use the Global Positioning System (GPS). GPS is a satellite-based hyperbolic navigation system to provide positioning capabilities to professional detector users. In the OKM eXp 7000, GPS does not transmit any data and operates independently of any telephone or internet reception. Position data can only be received, but not sent.

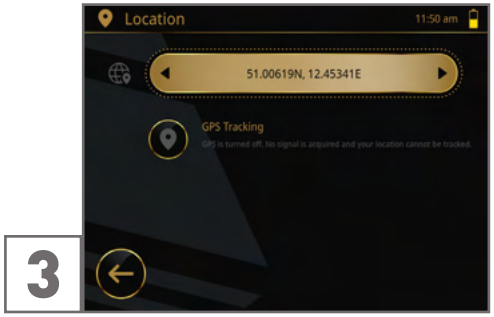
GPS location service is turned OFF by default.

As long as it is turned off, GPS tracking is not available for any operating mode.



Tap to turn on GPS tracking.
While searching for a signal, the icon flashes in the action bar.

With GPS tracking, a signal is only received to save a position internally with the scan file.



Use the arrows (left/right) to select your preferred coordinate system.

Available global coordinate systems in the OKM eXp 7000:

- DD (Decimal Degrees)
  DD.ddddddddN/S, DD.ddddddddE/W
- DMS (Degrees-Minutes-Seconds)
  DD° MM' SS.ss" N/S DD° MM' SS.ss" E/W
- UTM (Universal Transverse Mercator)
  based on WGS84 (World Geodetic System)
  60Z XXXXXXE YYYYYYYN

DD is a notation for expressing latitude and longitude geographic coordinates as decimal fractions of a degree. DMS is based on the traditional sexagesimal unit subdivisions. UTM is a projected coordinate system dividing the Earth into 60 uniform zones, each 6° of longitude in width – except in two areas (southwest coast of Norway and the region around Svalbard).

4.5.4 Battery

If no charger is connected, the remaining operating time and the current battery level are shown.

If the charger is connected, the remaining charging time until the battery is fully charged and the current battery level are shown.

To extend operating time, Low Power Mode can be activated by tapping on .
This automatically reduces the brightness and the general volume to a maximum of 3.

If less than 3 was set previously, the setting remains at the lower level.

4.5.5 Regional Preferences

1

Use the arrows (left/right) to loop through the available languages.

2

Tap on the toggle to select your preferred time format (12 h | 24 h).

3

Tap on the toggle to select your preferred length unit (metric *m* | imperial *ft*).

4

Use the arrows (up/down) to set the hours ...

5

... and minutes.

6

Tap on to proceed with the date.

7

Use the arrows (left/right) to select your preferred date format.

Proceed with the date. Please note: The order of the single date segments depends on the selected date format:

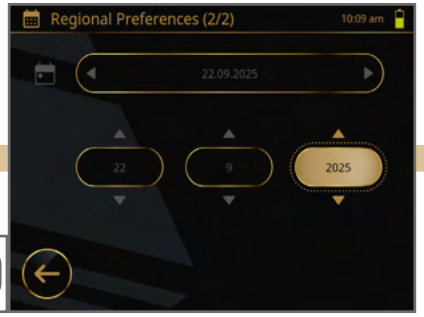
- dd.mm.yyyy
- dd. month yyyy
- mm/dd/yyyy
- month dd, yyyy
- yyyy.mm.dd

8

Use the arrows (up/down) to set day, ...

9

... month ...



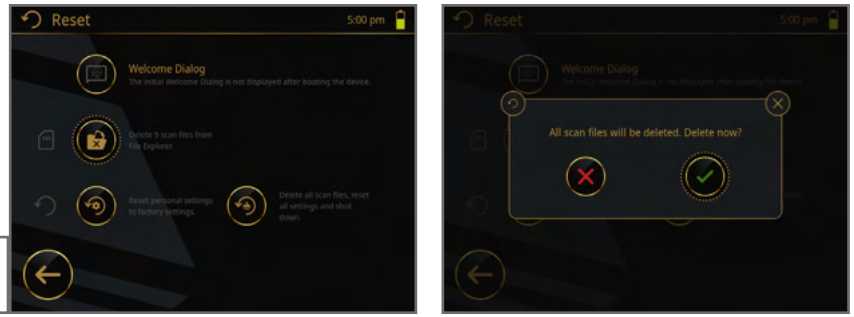
10

... and year.

11

Save and exit this settings menu with ← .

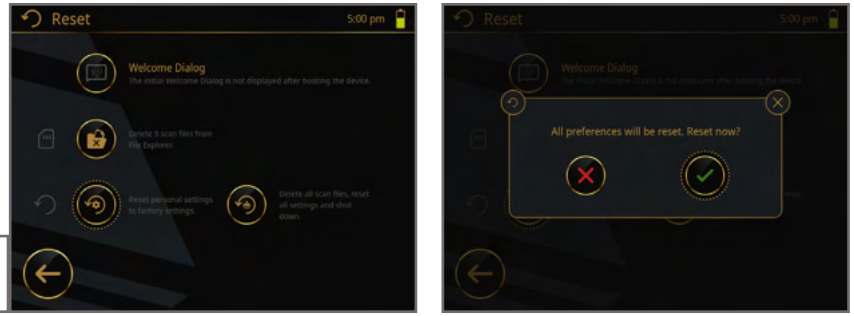
4.5.6 Reset



1

Tap on the button to delete all scan files from the File Explorer.

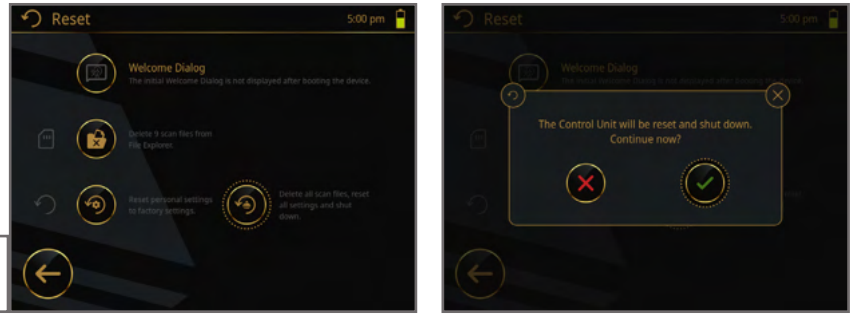
Confirm the action again with ✓ to execute it. To cancel any action, press ✗.



2

Tap on the button to reset all preferences to default settings.

Confirm the action again with ✓ to execute it. To cancel any action, press ✗.

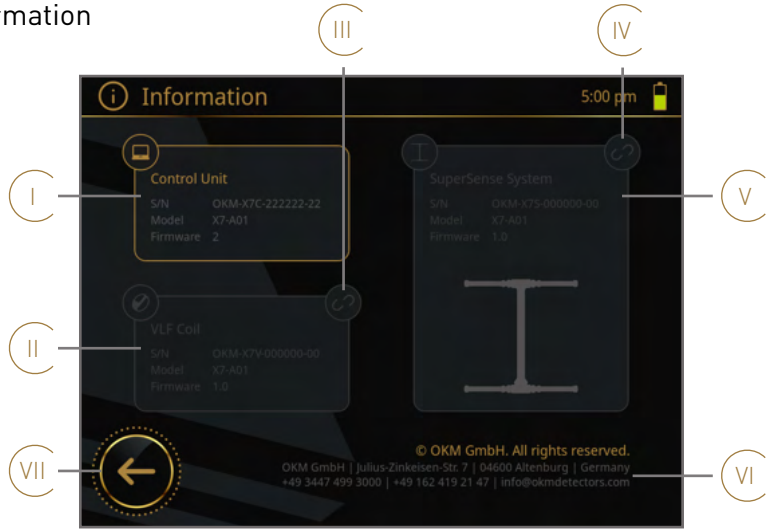


3

Tap on the button to delete all scan files and reset all settings.

Confirm the action again with ✓ to execute it. To cancel any action, press ✗.

4.5.7 Information



I	Control Unit information including serial number, model number and current Firmware version of the Control Unit.
II	VLF Coil information including serial number, model number and current Firmware version of the current/last connected VLF Coil.
III	Connection state indicating that the probe/coil is not connected.
IV	Connection state indicating that the probe/coil is connected.
V	SuperSense System information including serial number, model number, current Firmware version and Extender configuration of the current/last connected SuperSense System.
VI	Contact details comprising address, phone number, WhatsApp number and email address of OKM Germany for further support.
VII	Back arrow: Tap to exit Information and return to the Settings menu.

4.6 PAIR/CONNECT BLUETOOTH HEADPHONES

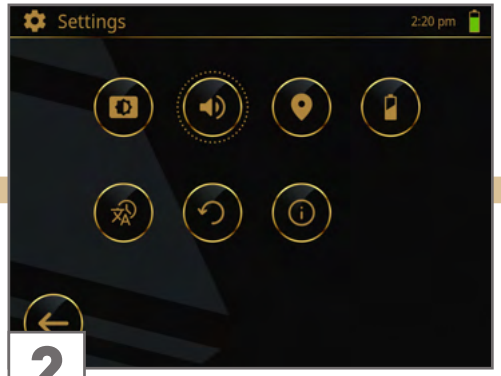
The acoustic feedback can be provided by headphones instead of the Control Unit speakers in order to avoid attracting attention.

We recommend to use the included OKM Open-Ear Headphones. Alternatively, you can connect your own Bluetooth headphones.

Once the Bluetooth headphones have been successfully paired, they will usually connect automatically the next time they are switched on.

1

Open *Settings*.



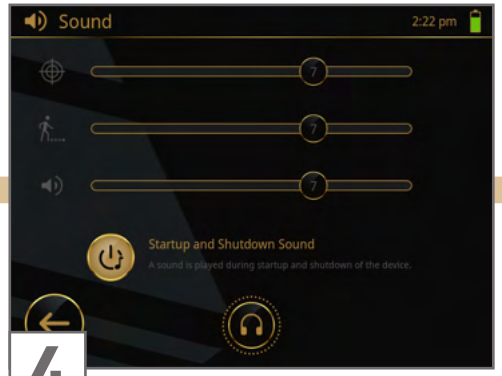
2

Select the option *Sound* .

3

Switch on the OKM Open-Ear Headphones and press the buttons **+** and **–** simultaneously for 5 s to activate the pairing mode (LED will flash red and blue alternately).

For further information, please refer to the Headphones Manual.



4

Tap on to scan for available Bluetooth devices.

5

The LEDs above the Knob flashes blue while scanning for Bluetooth devices. Wait until the process is complete (approx. 15 s).

6

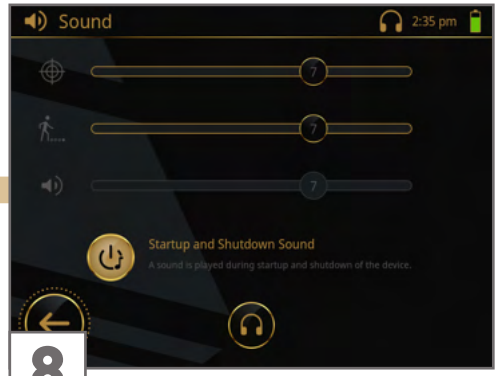
A list with available Bluetooth devices is displayed. Tap on *OKM Headphones*.

Tap on the ◆ button to filter Bluetooth devices in the list: Toggle between **all** or **OKM only**.

7

Wait until the pairing and connecting process is complete. The LEDs above Knob flashes blue while pairing and connecting:

●○●○●○●○●



8

As soon as the headphones are successfully connected, you can exit the Sound Settings with ←.
The symbol 🎧 in the top bar indicates that the headphones are successfully connected.

The volume of the headphones is set directly at the headphones using the buttons **+** and **–**.

For further information, please refer to the Headphones Manual.

OPERATIONS

5 OPERATIONS

The integrated Bluetooth components complie with part 15 of the FCC Regulations. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Magnetic fields and metallic objects influence the scan results. Keep the probes away from electric motors, speakers, phones, and keys:

- SuperSense System at least 50 m | 160 ft,
- VLF Coil at least 2 m | 7 ft from metallic objects,
- VLF Coil at least 15 m | 49 ft from active sources of interference, e.g. other detectors.

Remove visible metallic objects such as cans, nails, screws or debris from your scan field before performing measurements with the detector.

5.1 PACEMAKERS

The SuperSense System is a passive measuring instrument that does not emit magnetic waves. The VLF Coil is an active measuring instrument that does emit electro-magnetic fields. When used in accordance with the instructions, metal detectors are generally not known to interfere with pacemakers. Clarify possible interferences with your medical doctor if you are wearing a pacemaker or similar medical device.

5.2 CAUTION DURING EXCAVATION

DANGER

Do not touch detected ammunition!
Report it to the police!

Once you get a clear target signal, excavate the area around the target object carefully to prevent damage to a potential rare find and minimize the possibility of accidentally detonating old ammunition.

Note the color of the soil close to the surface: A reddish color can be an indicator of rust trace of various kinds of fuses.

Pay attention to the shape of target objects: Curved or round objects can be coins or wedding bands, but may also be parts of ammunition. If you identify buttons, rings or little pegs, excavate particularly carefully.

5.3 OPERATING MODES

The following operating modes are available in the OKM eXp 7000 Professional Plus application:

	3D Ground Scan*	see 5.4 3D Ground Scan on page 28
	Magnetometer*	see 5.5 Magnetometer on page 36
	Live Scan*	see 5.6 Live Scan on page 38
	Mineral Scan*	see 5.7 Mineral Scan on page 40
	Tunnel Scan*	see 5.8 Tunnel Scan on page 46
	Pinpointer*	see 5.9 Pinpointer on page 52
	3D VLF Scan**	see 5.10 3D VLF Scan on page 54
	VLF Metal Detection**	see 5.11 VLF Metal Detection on page 64
	File Explorer	see 5.12 File Explorer and File Transfer on page 70
	Settings	see 4.5 Settings on page 19
	Shutdown	Tap to power off the Control Unit. Confirm with ✔ OR cancel with ✘ to return to the Main Menu.

* These operating modes are available as soon as the Super Sensor or SuperSense System is connected.
** These operating modes are available as soon as the VLF Coil is connected.

5.4 3D GROUND SCAN

Use the operating mode 3D Ground Scan to get a detailed visualization of underground structures and potential target objects for further analysis in Visualizer 3D Studio.

Learn more in the 3D Ground Scan Guide at www.okmdetectors.com/3d-ground-scan-guide

5.4.1 Configure Measurement

1

Connect the Super Sensor/SuperSense System – see 3.2 SuperSense System on page 13.

2

Open the operating mode 3D Ground Scan.

3

The recommended parameters for fast and easy scans are:

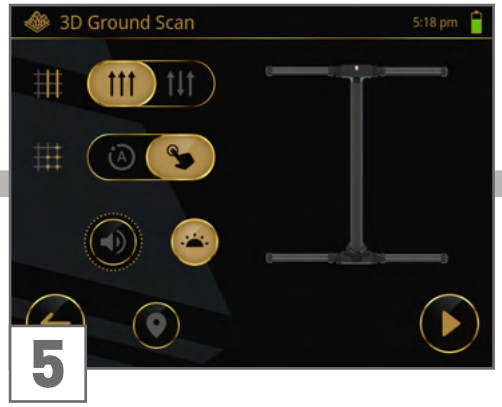
Scan Mode: Parallel
Impulse Mode: Automatic
Sound: ON
LED Orbit: ON

GPS: only available if enabled in Settings – see 4.5.3 Location on page 21

Impulse Mode **Automatic**
The impulses (scan values) are recorded continuously without any break.

Scan Mode **Parallel**
Scan all lines in the same direction.

For rough terrain, you can select the Impulse Mode **Manual**: Every single impulse (scan value) requires the Knob/ to be pressed.



Regardless of the selected scan mode and impulse mode, you can tap on to switch OFF the Sound ...

Ready to start your 3D Ground Scan.

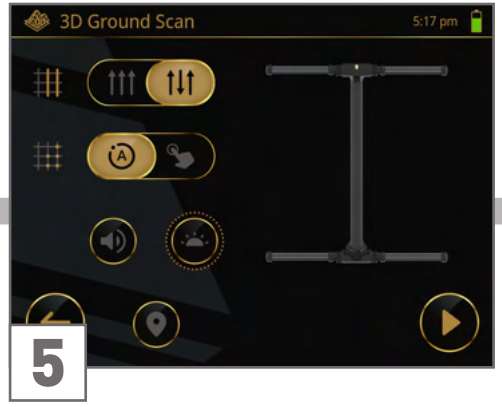
Continue with 5.4.3 Perform Manual 3D Ground Scan on page 32.

Ready to start your 3D Ground Scan.

Continue with 5.4.2 Perform Default 3D Ground Scan on page 30.

Very experienced OKM users can select the Scan Mode **Zigzag** to scan all scan lines forwards and backwards alternately.

... and/or to switch OFF the LED Orbit.

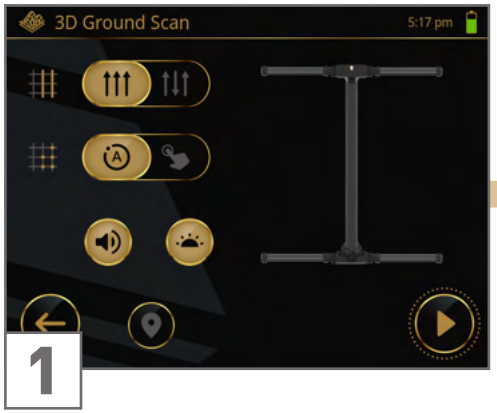


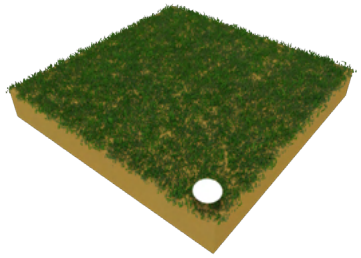
Ready to start your 3D Ground Scan.

Continue with 5.4.4 Perform Zig-zag 3D Ground Scan on page 34.

5.4.2 Perform Default 3D Ground Scan

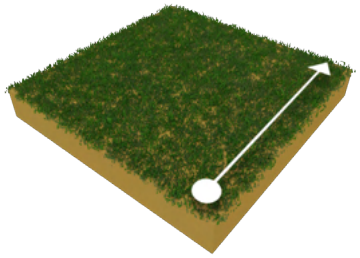
The default parameters (Scan Mode: Parallel | Impulse Mode: Automatic) are recommended for entry-level detector users and allow scanning in flat and wide as well as slightly sloping terrain.





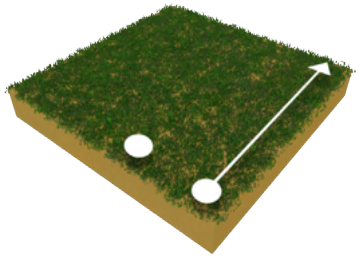
Go to the starting point of the first scan line (bottom right corner).

Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.



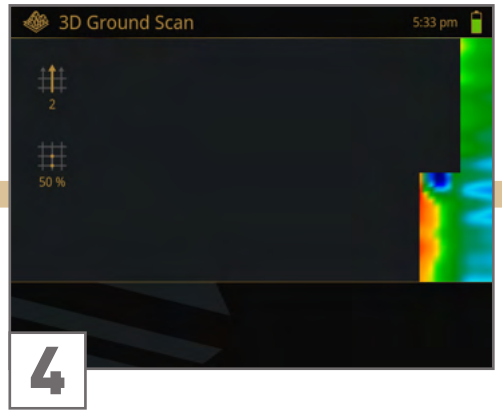
Walk to the end of the first scan line. Press ■ or push the Knob as soon as you reach its end to set the field length for all following lines.

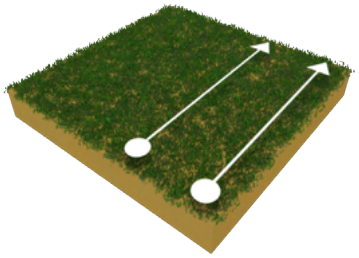
The scan image will be generated line by line to help you to follow your progress while measuring.



Return to your first starting point without scanning and take one step to the left: This is the starting point of the second scan line.

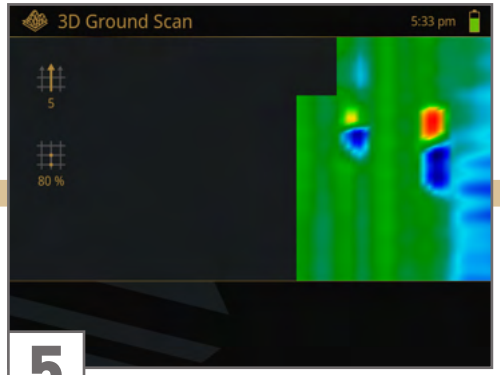
Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.



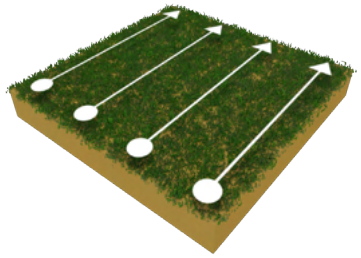


Walk parallel to your first scan line and at the same speed. The impulse sound should stop at the end of the line.

The first scan lines may initially look incorrect. However, the inconsistent scan image will stabilize in the course of the scan.



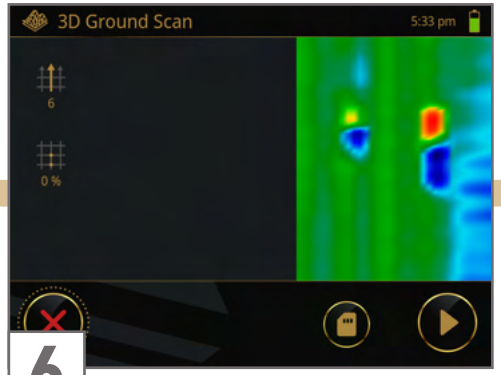
5



Return to the previous starting point and take a step to the left (without scanning): This is the starting point of the next scan line.

Press ▶ or push the Knob to start scanning and walk at the same speed until you reach the end of the scan line.

Repeat this to scan as many lines as you like.



6

Complete the scan by tapping on ■ ...

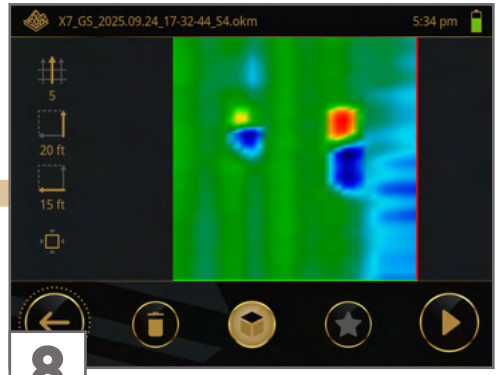
... or cancel with ✕.

Confirm with ✓ to discard the scan and return to the Main Menu OR return to your scan procedure with ✕.

7

Enter the Field Length ⬚ and Field Width ⬚ that you actually measured: Tap on the arrows (left/right) or turn the Knob.

Confirm with ✓ to save your scan or discard the details with ✕ and proceed with your scan.



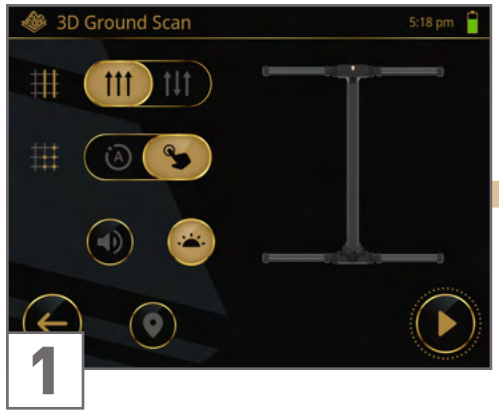
8

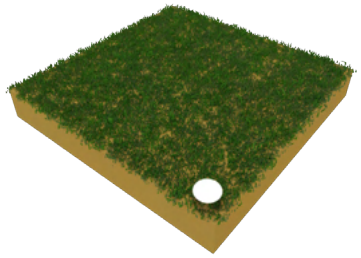
The scan file is opened in the File Explorer – see 5.12.2 Review 3D Ground Scan on page 72.

5.4.3 Perform Manual 3D Ground Scan

The parameters (Scan Mode: Parallel | Impulse Mode: Manual) are recommended for very rough terrain.

In Impulse Mode *Manual* each single impulse (scan value) is triggered manually one after the other at its own pace by pressing or pushing the Knob.

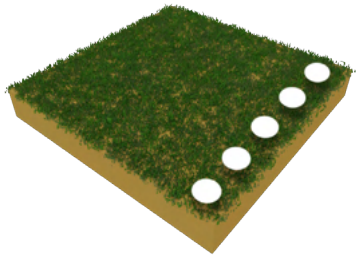




Go to the starting point of the first scan line (bottom right corner).

Press ▶ or push the Knob to start the first scan line.

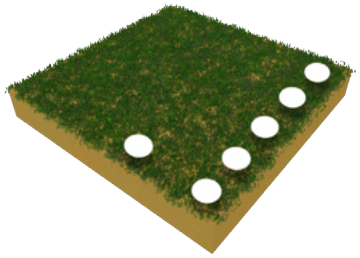
The first scan lines may initially look incorrect. However, the inconsistent scan image will stabilize in the course of the scan.



Take a step forward and press or push the Knob to record an impulse. Continue in this way until you reach the end of the first scan line.

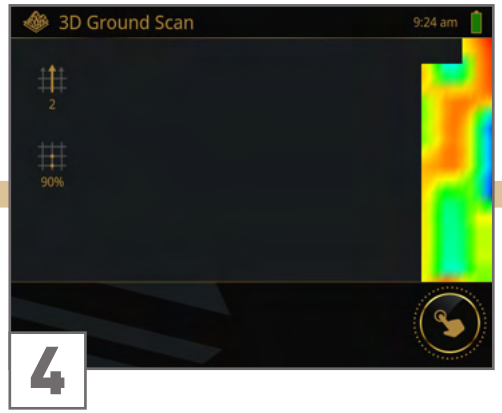
Tap on ■ to finish the first line and thereby set the field length.

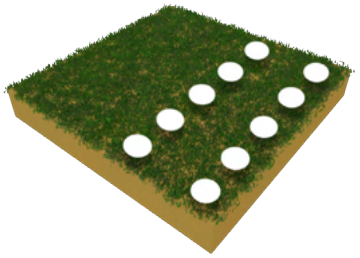
The scan image will be generated line by line to help you to follow your progress while measuring.



Return to your first starting point without scanning and take one step to the left: This is the starting point of the second scan line.

Press ▶ or push the Knob to start the second scan line and record the first impulse of your second scan line.

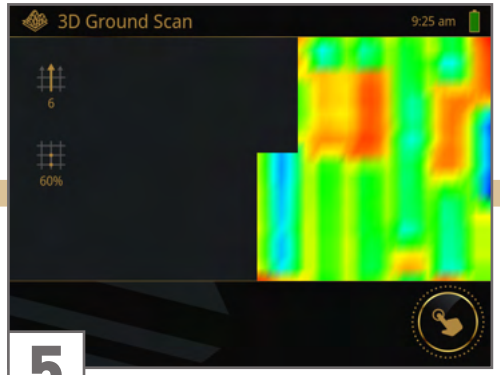




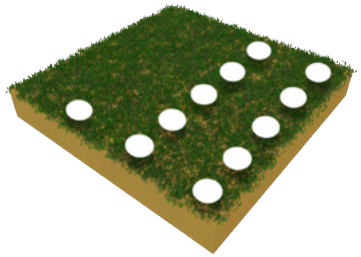
Take a step forward and press or push the Knob to record the next impulse. Continue until you reach the end of the scan line.

Scan parallel to your first scan line with the probe heading into the same direction as in the first scan line.

The progress is indicated on the left. At 100% you have reached the end of the scan line. This is also indicated by an acoustic signal (if Sound is enabled).



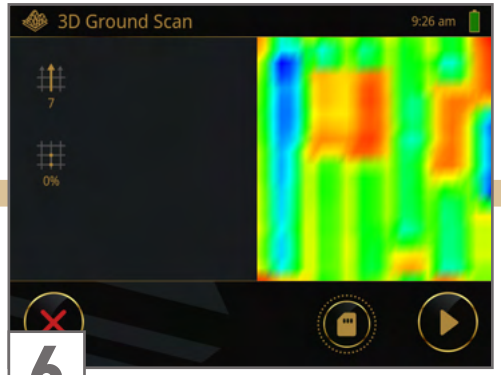
5



Return to the previous starting point and take a step to the left (without scanning): This is the starting point of the next scan line.

Press ▶ or push the Knob to start the scan line. Press or push the Knob to release an impulse at each step forward until you reach the end of the scan line.

Repeat this to scan as many lines as you like.



6

Complete the scan by tapping on ...

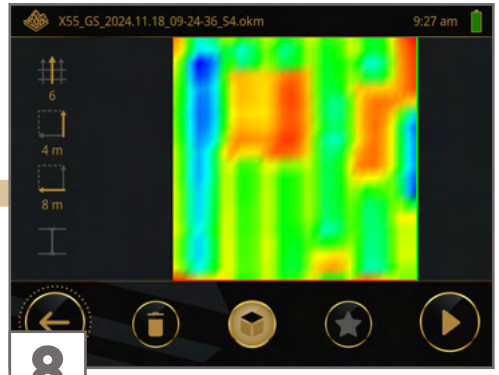
... or cancel with ✕.

Confirm with ✓ to discard the scan and return to the Main Menu OR return to your scan procedure with ✕.

7

Enter the Field Length and Field Width that you actually measured: Tap on the arrows (left/right) or turn the Knob.

Confirm with ✓ to save your scan or discard the details with ✕ and proceed with your scan.



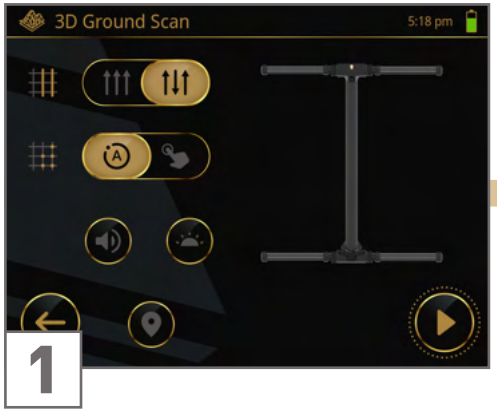
8

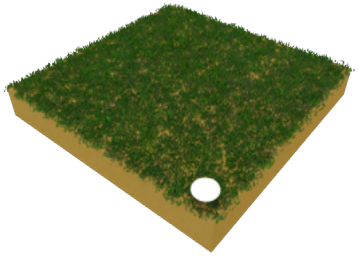
The scan file is opened in the File Explorer – see 5.12.2 Review 3D Ground Scan on page 72.

5.4.4 Perform Zigzag 3D Ground Scan

The parameters (Scan Mode: Zigzag | Impulse Mode: Automatic) are recommended for advanced detector users and can be applied in flat terrain.

In Scan Mode *Zigzag* all scan lines are scanned by walking forwards and backwards. However, the scan lines must be parallel to each other and the probe must always point in the same direction as in the first scan line. **Do not turn/rotate the probe during the scan!**

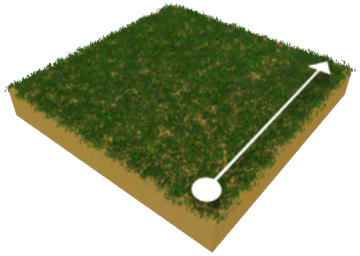




Go to the starting point of the first scan line (bottom right corner).

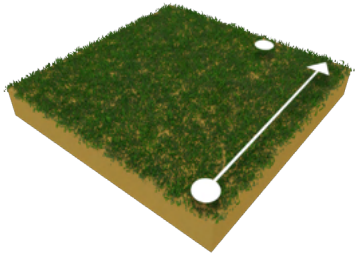
Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.

The first scan lines may initially look incorrect. However, the inconsistent scan image will stabilize in the course of the scan.



Walk to the end of the first scan line. Press ■ or push the Knob as soon as you reach its end to set the field length for all following lines.

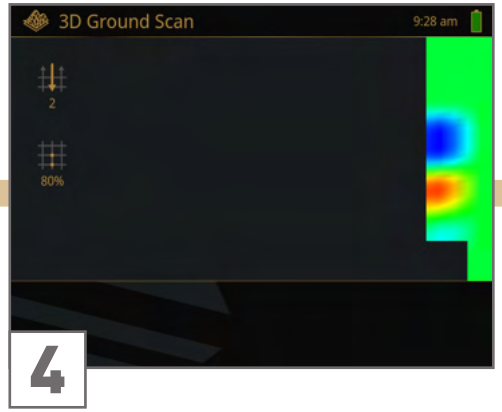
The scan image will be generated line by line to help you to follow your progress while measuring.

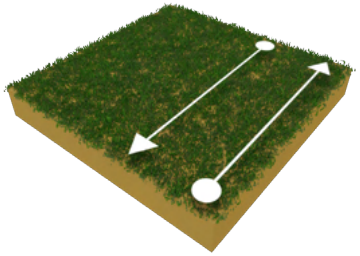


Remain at the end of the scan line and take a step to the left (without scanning).

The probe must always point in the same direction as in the first scan line: Use the arrow on top of the Super Sensor for alignment.

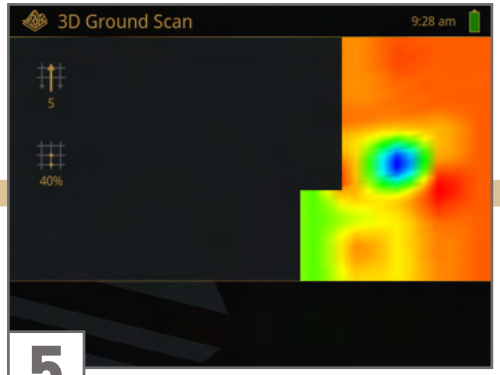
Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.



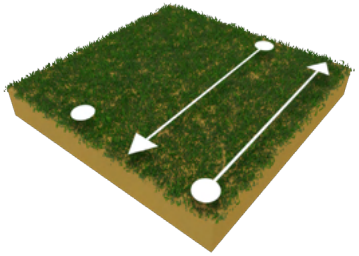


Walk parallel to your first scan line but in reverse until you reach the end of the scan line.

Walk at the same speed as in the first scan line. The impulse signals should stop as soon as you reach the end of the line (if Sound is enabled).



5

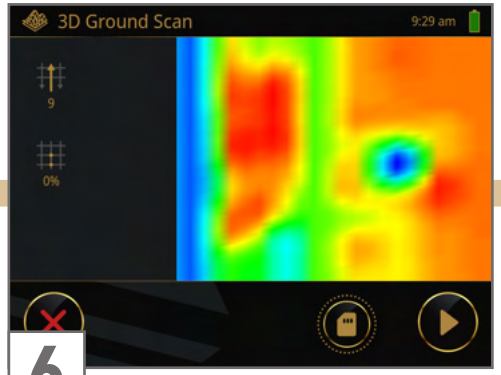


Remain at the end of the scan line and take a step to the left (without scanning).

Press ▶ or push the Knob to start scanning. Walk parallel to the first scan line (forwards) and at the same speed until you reach the end of the scan line.

Repeat steps 3 to 5 to scan as many lines as you like: Odd scan lines forwards, even scan lines backwards.

The current scan line direction (forwards/ backwards) is indicated by the golden arrows and on the left edge of the screen.



6

Complete the scan by tapping on ...

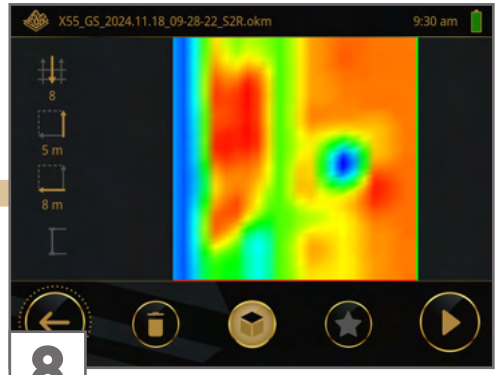
... or cancel with ✕.

Confirm with ✓ to discard the scan and return to the Main Menu OR return to your scan procedure with ✕.

7

Enter the Field Length and Field Width that you actually measured: Tap on the arrows (left/right) or turn the Knob.

Confirm with ✓ to save your scan or discard the details with ✕ and proceed with your scan.



8

The scan file is opened in the File Explorer – see 5.12.2 Review 3D Ground Scan on page 72.

5.5 MAGNETOMETER

Use the operating mode Magnetometer to detect small metal objects like nails, screws and wires made of ferromagnetic materials such as iron, nickel and cobalt close to the surface. Remove these items from the scan field before performing further scans. The fewer small metal items in the soil, the deeper you can detect targets with 3D Ground Scan.

Moreover, use Magnetometer to pinpoint objects during excavation. This scan cannot be saved.

5.5.1 Prepare Measurement

Connect the Super Sensor/SuperSense System – see 3.2 SuperSense System on page 13.

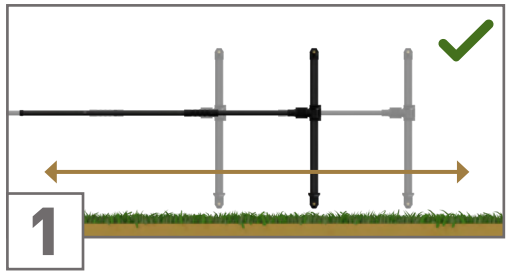
Open Magnetometer.

Hold the Super Sensor/SuperSense System above neutral ground, and start with ▶.

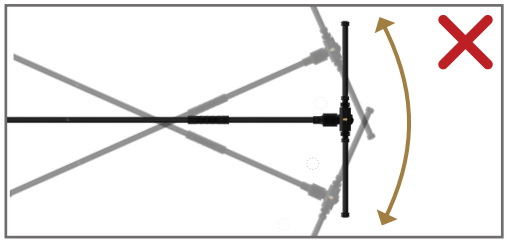
5.5.2 Measurement Screen

I	SuperSense System shows the Super Sensor with currently connected Extenders.
II	Magnetometer signals represent values immediately as color-coded graphs for each individual pair of sensors.
III	Zero line represents neutral ground.
IV	Sensitivity: Slide to decrease/increase the detection sensitivity. Set lower sensitivity when using Magnetometer on rough terrain or on scan fields with high mineralization.
V	Sound: Tap to (de)active the acoustic feedback.
VI	LED Orbit: Tap to (de)active the visual feedback.
VII	Ground Balance: Place the probe above neutral ground (no objects underground) and tap on the icon to reset the sensors.
VIII	Cancel: Exit Magnetometer and return to the Main Menu.

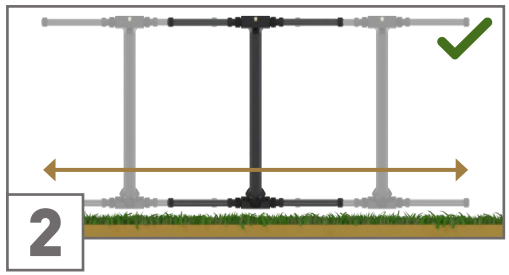
5.5.3 Perform Measurement



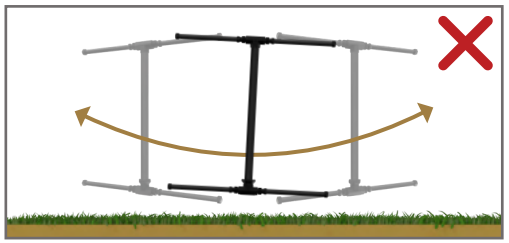
Hold the probe vertically.
Move the detector back and forth.



Keep the orientation of the probe parallel to your starting orientation.

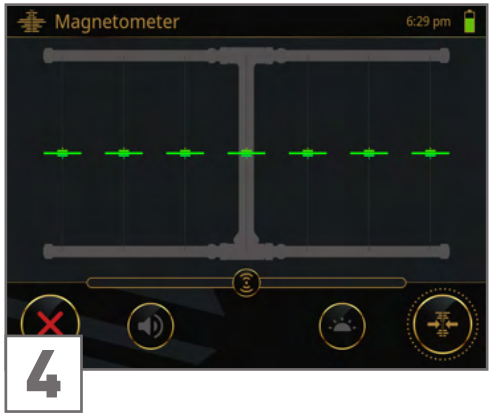


Move the detector to the left and right.



Do not pivot, swing or rotate the probe.

If the graphs become unstable or are "frozen", place the probe above neutral ground (no objects underground).



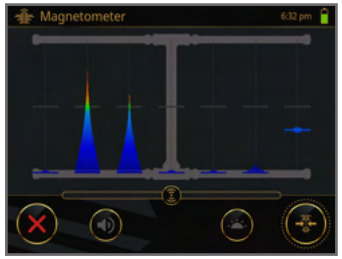
Tap on to perform a Ground Balance. The graphs will be reset to the zero line.

5.5.4 Interpret Measurement

As soon as the sensors detect a potential target, you get immediate feedback:

- acoustic feedback (if Sound is enabled),
- direct visual feedback (if LED Orbit is enabled) and
- detailed visual representation for each individual pair of sensors.

The LED orbit shows the color of the signal with the maximum amplitude.

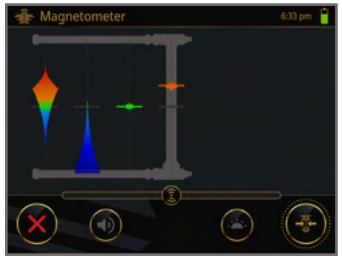


The graph shows **BLUE** peaks if the probe is pointing at the negative magnetic pole of a ferrous object.

The graph is in the **GREEN** range (close to zero line) if there is no ferrous or magnetic target object.

The graph shows **RED** peaks if the probe is pointing at the positive magnetic pole of a ferrous object.

The values are visualized as color-coded graphs for each individual pair of sensors:

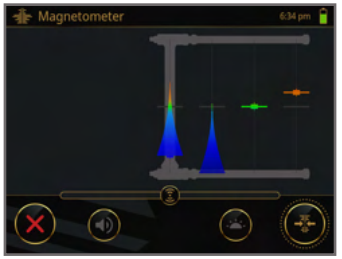


2 Extenders plugged into the left side of the Super Sensor.

The graphs indicate a ferrous object with medium positive pole (**RED**) and strong negative pole (**BLUE**).

Super Sensor without Extenders.

The graph indicates a weak to medium signal.



2 Extenders plugged into the right side of the Super Sensor.

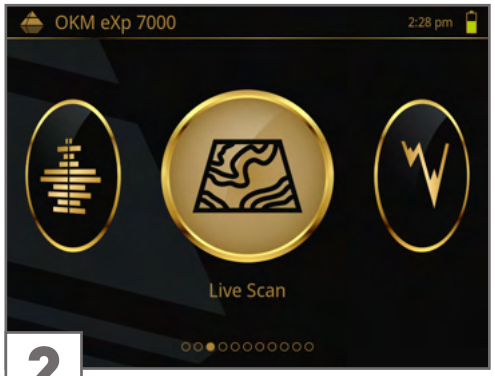
Graphs indicate a small ferrous object with medium positive pole (**REDDISH**) and strong negative pole (**BLUE**).

5.6 LIVE SCAN

Use the operating mode Live Scan to detect and locate anomalies and metal objects in real time. Moreover, use Live Scan to pinpoint objects during excavation. This scan cannot be saved.

5.6.1 Prepare Measurement

Connect the complete SuperSense System – see 3.2 SuperSense System on page 13.

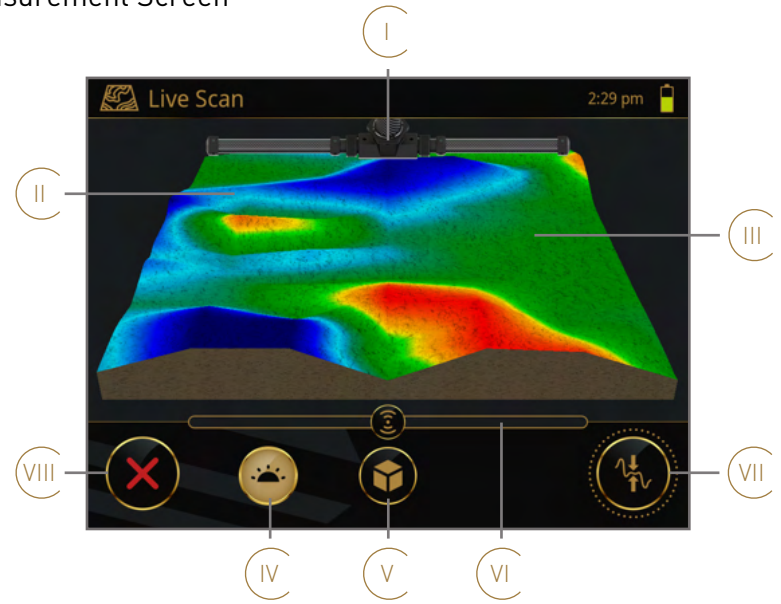


Open Live Scan.

Hold the SuperSense System above neutral ground, and start with ▶.

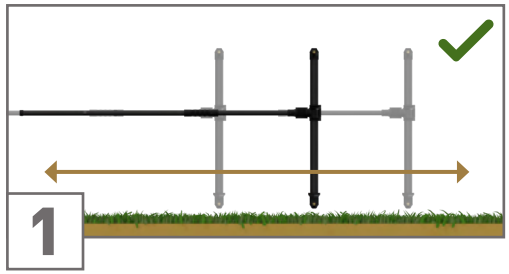
If you see this screen, the SuperSense System is not connected properly. Check the Probe connection and/or the Extenders – see 3.2 SuperSense System on page 13.

5.6.2 Measurement Screen

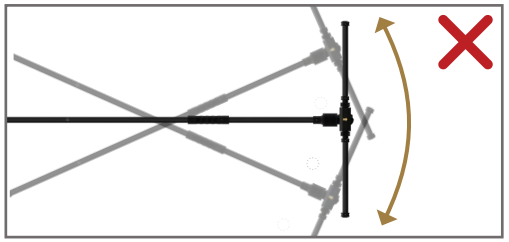


I	Lower part of the SuperSense System for simplified scan orientation.
II	Live Scan signals represent values immediately as color-coded spots or patterns depending on the size and shape of detected anomalies.
III	Green surface represents neutral ground.
IV	LED Orbit: Tap to (de)active the visual feedback.
V	View: Tap to toggle between Perspective View (3D) and Top View (flat surface).
VI	Sensitivity: Slide to decrease/increase the detection sensitivity. Set lower sensitivity when using Live Scan on rough terrain or on scan fields with high mineralization.
VII	Ground Balance: Place the probe above neutral ground (no objects underground) and tap on the icon to reset the sensors.
VIII	Cancel: Exit Live Scan and return to the Main Menu.

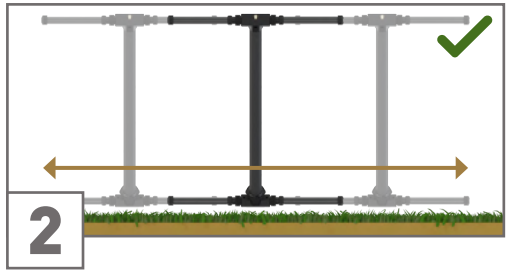
5.6.3 Perform Measurement



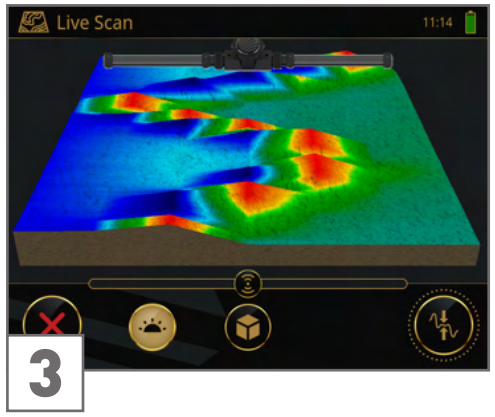
Hold the probe vertically. Walk straight lines. You can move the detector back and forth.



Keep the orientation of the probe parallel to your starting orientation.

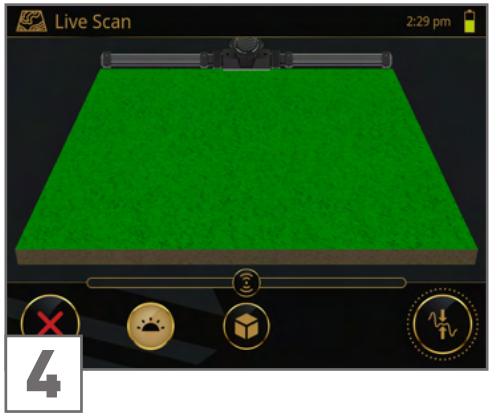


Move the detector to the left and right.



If the signals become unstable or are "frozen", place the probe above neutral ground (no objects underground).

Do not pivot, swing or rotate the probe.



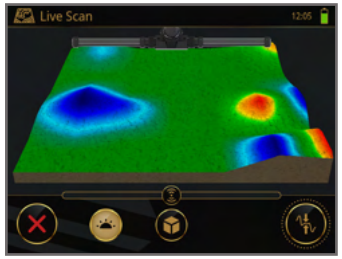
Tap on to perform a Ground Balance. The visualization will be reset to green surface.

5.6.4 Interpret Measurement

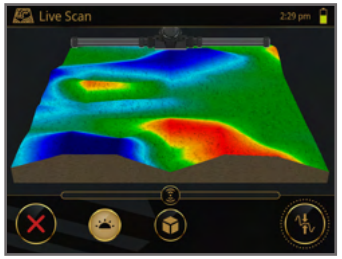
As soon as the sensors detect a potential target, you get immediate feedback:

- direct visual feedback (if LED Orbit is enabled) and
- detailed visual representation.

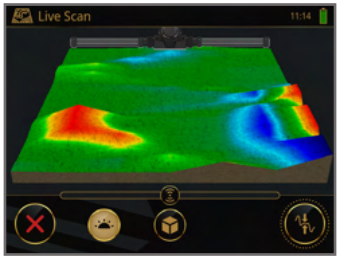
The LED orbit shows the color of the signal with the maximum amplitude.



A combination of a **BLUE** and a **RED** spot most likely indicates the magnetic poles of a ferro-magnetic object.

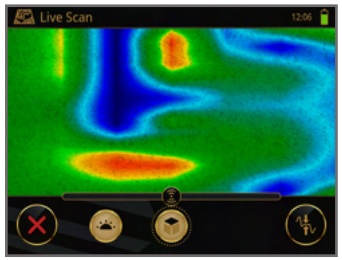


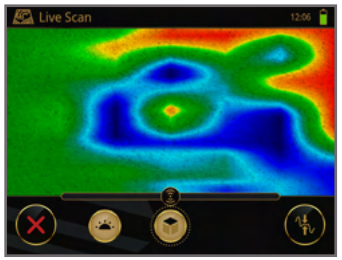
Prominent signals can appear smaller or larger. The **GREEN** range shows that there is no remarkable target object.

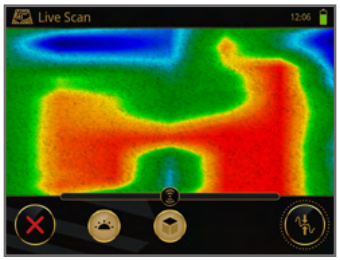


The prominent signals provide an initial indication of where a 3D Ground Scan makes sense. If the signals appear at the edges, move the probe to understand your scan field.

You may toggle between Perspective View (3D) and Top View (2D) with .
Please note: These screenshots are individual sample images and do not refer to the same target objects as in the above examples. The scan images cannot be reproduced in exactly the same way in both views, as they are real-time scans and depend on the scan conditions.







5.7 MINERAL SCAN

Use the operating mode Mineral Scan to detect potential areas for gold prospecting. A very specific signature called "hit in a hit" provides indications of potential deposits of gold veins or natural mineral gold.

This operating mode only uses the sensor pair in the Super Sensor, not those in the Extenders. The Extenders can still remain connected, but are ignored for the measurement.

5.7.1 Configure Measurement

1

Connect the Super Sensor
– see 3.2 SuperSense System on page 13.

2

Open the operating mode Mineral Scan.

3

The recommended parameters for fast and easy scans are:

Impulse Mode: Automatic
Sound: ON
LED Orbit: ON

GPS: only available if enabled in Settings
– see 4.5.3 Location on page 21

Impulse Mode **Automatic** (A)
The impulses (scan values) are recorded continuously without any break.

For rough terrain, you can select the Impulse Mode **Manual** : Every single impulse (scan value) requires the Knob/ to be pressed.

Regardless of the selected impulse mode, you can tap on to switch OFF the LED Orbit ...
... and/or to switch OFF the Sound.

Ready to start your Mineral Scan.

Continue with 5.7.3 Perform Manual Mineral Scan on page 44.

Ready to start your Mineral Scan.

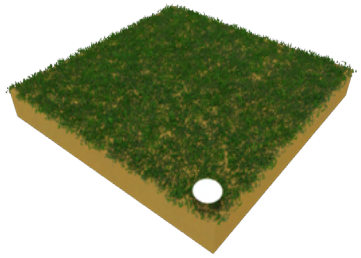
Continue with 5.7.2 Perform Default Mineral Scan on page 42.

5.7.2 Perform Default Mineral Scan

The default parameter *Impulse Mode: Automatic* is recommended for entry-level detector users and allow scanning in flat and wide as well as slightly sloping terrain.

Press ❚❚ or push the Knob to pause the scan.

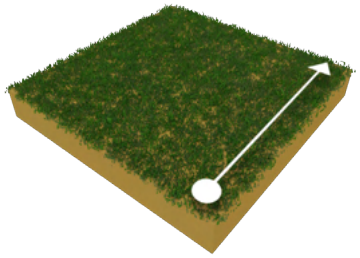
Press ▶ to resume scanning ...



Unlike with 3D Ground Scan, with Mineral Scan you walk only one single straight line.

Go to the starting point of your scan line.

Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.



Walk at a constant speed.

Hold the probe straight and at a constant height above the ground.

5

... or press to save the scan.

6

Enter the Field Length that you actually measured: Tap on the arrows (left/right) or turn the Knob.

7

Confirm with ✓ to save your scan
OR discard the details and proceed with your scan with ✗

8

The scan file is opened in the File Explorer – see 5.12.3 Review Mineral Scan on page 73.

... or cancel with ✗.

Confirm with ✓ to discard the scan and return to the Main Menu
OR proceed with your scan with ✗.

5.7.3 Perform Manual Mineral Scan

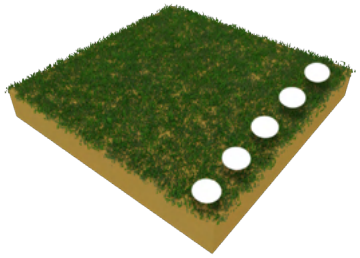
The parameter *Impulse Mode: Manual* is recommended for very rough terrain.

In Impulse Mode *Manual* each single impulse (scan value) is triggered manually one after the other at its own pace by pressing or pushing the Knob.

Unlike with 3D Ground Scan, with Tunnel Scan you walk only one single straight line.

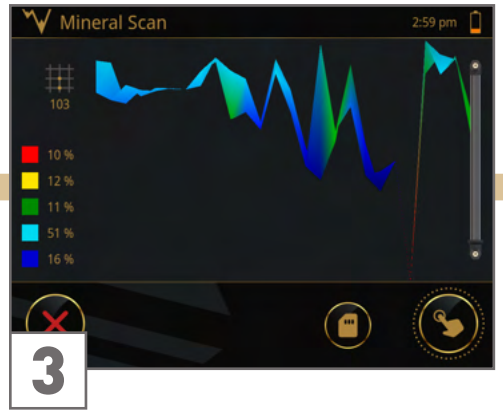
Go to the starting point of your scan line.

Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.

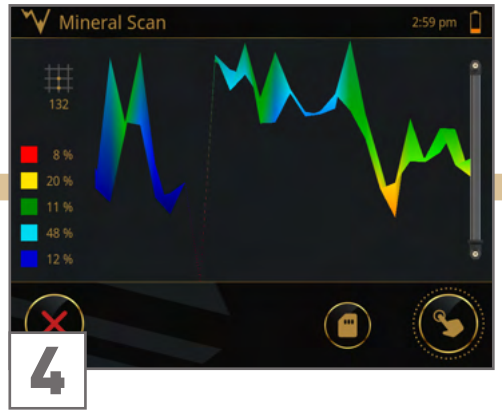


Hold the probe straight and at a constant height above the ground.

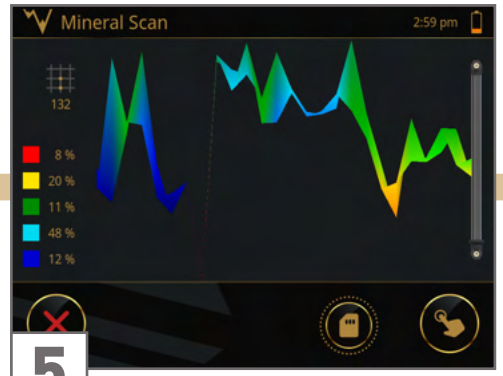
Press or push the Knob to record an impulse.



Take a step forward and press again to record the next impulse.



Continue in this way to collect more scan values until you reach the end of your scan line.



5

As soon as you have reached the end of your scan line, press to save the scan ...

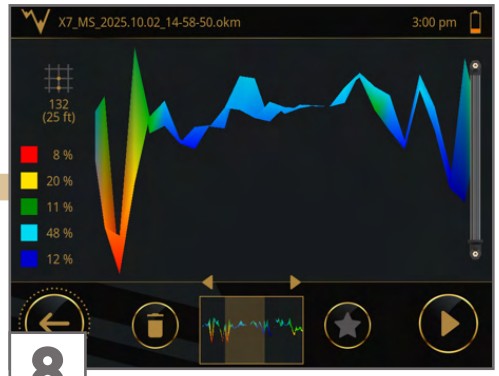
... or cancel with ✕.

6

Enter the Field Length that you actually measured: Tap on the arrows (left/right) or turn the Knob.

7

Confirm with ✓ to save your scan
OR discard the details and proceed with your scan with ✕



8

The scan file is opened in the File Explorer – see 5.12.3 Review Mineral Scan on page 73.

Confirm with ✓ to discard the scan and return to the Main Menu
OR proceed with your scan with ✕.

5.8 TUNNEL SCAN

Use the operating mode Tunnel Scan to detect anomalies in the ground that may indicate structures such as tunnels, bunkers, treasure chambers etc.

This operating mode only uses the sensor pair in the Super Sensor, not those in the Extenders. The Extenders can still remain connected, but are ignored for the measurement.

5.8.1 Configure Measurement

1

Connect the Super Sensor
– see 3.2 SuperSense System on page 13.

2

Open the operating mode Tunnel Scan.

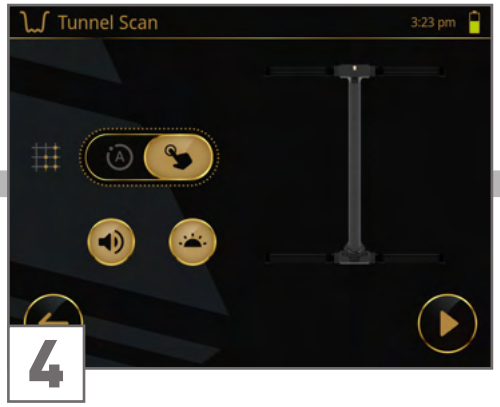
3

The recommended parameters for fast and easy scans are:

Impulse Mode: Automatic
Sound: ON
LED Orbit: ON

GPS: only available if enabled in Settings
– see 4.5.3 Location on page 21

Impulse Mode **Automatic** (A)
The impulses (scan values) are recorded continuously without any break.



For rough terrain, you can select the Impulse Mode **Manual**: Every single impulse (scan value) requires the Knob/ to be pressed.

Regardless of the selected impulse mode, you can tap on to switch OFF the LED Orbit ...
... and/or to switch OFF the Sound.

Ready to start your Tunnel Scan.

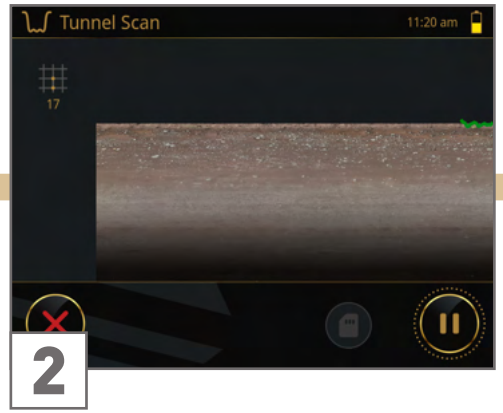
Continue with 5.8.3 Perform Manual Tunnel Scan on page 50.

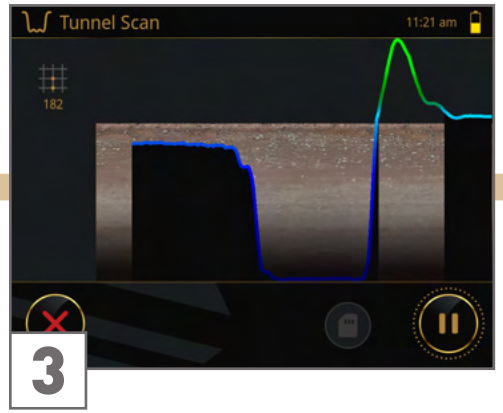
Ready to start your Tunnel Scan.

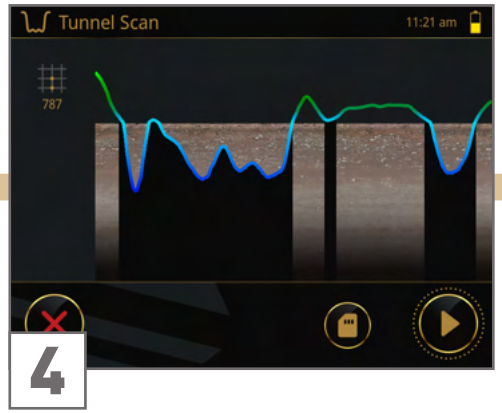
Continue with 5.8.2 Perform Default Tunnel Scan on page 48.

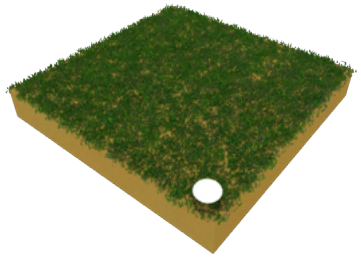
5.8.2 Perform Default Tunnel Scan

The default parameter *Impulse Mode: Automatic* is recommended for entry-level detector users and allow scanning in flat and wide as well as slightly sloping terrain.





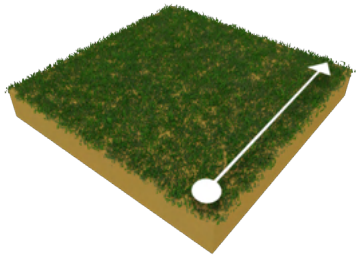




Unlike with 3D Ground Scan, with Tunnel Scan you walk only one single straight line.

Go to the starting point of your scan line.

Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.

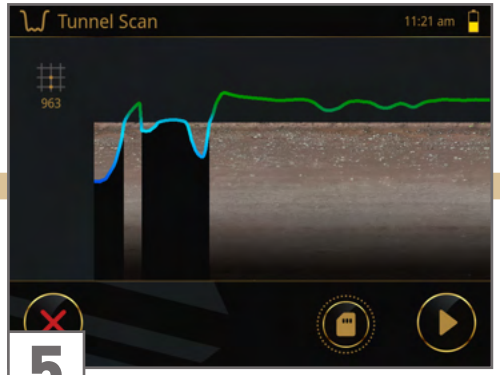


Walk at a constant speed.

Hold the probe straight and at a constant height above the ground.

Press ❚❚ or push the Knob to pause the scan.

Press ▶ to resume scanning ...



5

... or press to save the scan.

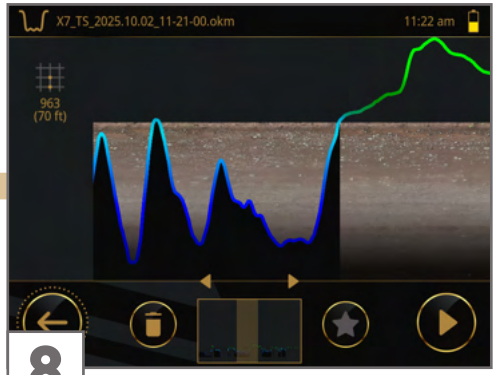
... or cancel with ✕.

6

Enter the Field Length that you actually measured: Tap on the arrows (left/right) or turn the Knob.

7

Confirm with ✓ to save your scan
OR discard the details and proceed with your scan with ✕



8

The scan file is opened in the File Explorer – see 5.12.4 Review Tunnel Scan on page 74.

Confirm with ✓ to discard the scan and return to the Main Menu
OR proceed with your scan with ✕.

5.8.3 Perform Manual Tunnel Scan

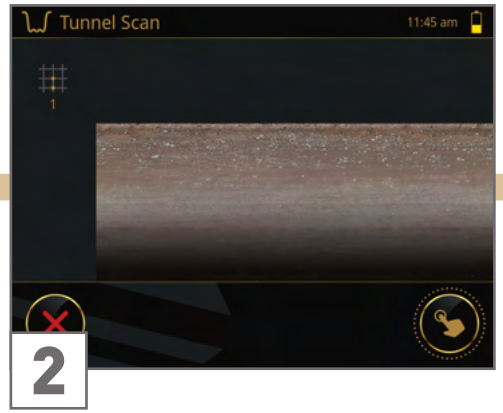
The parameter *Impulse Mode: Manual* is recommended for very rough terrain.

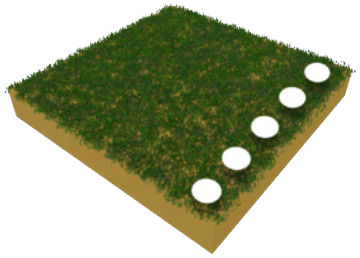
In Impulse Mode *Manual* each single impulse (scan value) is triggered manually one after the other at its own pace by pressing or pushing the Knob.

Unlike with 3D Ground Scan, with Tunnel Scan you walk only one single straight line.

Go to the starting point of your scan line.

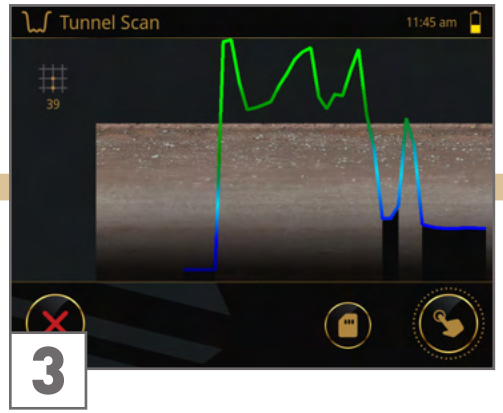
Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.



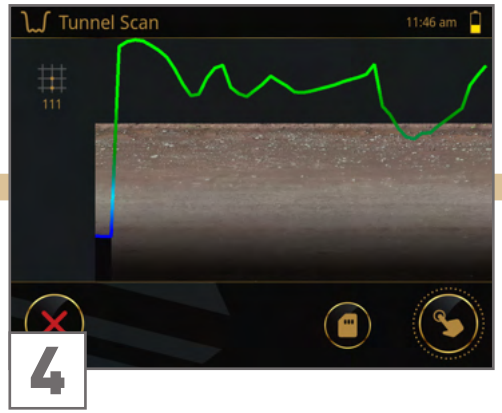


Hold the probe straight and at a constant height above the ground.

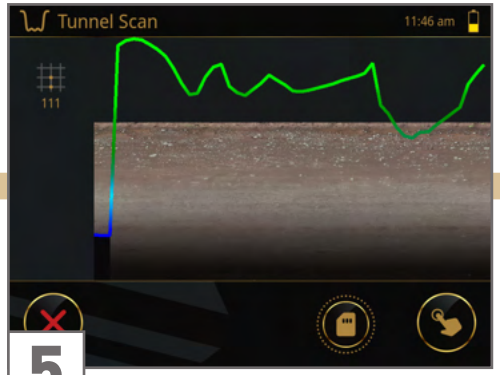
Press or push the Knob to record an impulse.



Take a step forward and press again to record the next impulse.



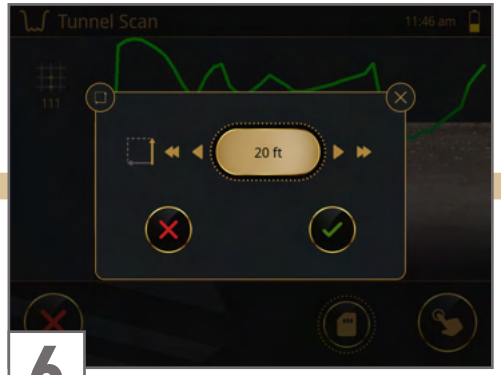
Continue in this way to collect more scan values until you reach the end of your scan line.



5

As soon as you have reached the end of your scan line, press to save the scan ...

... or cancel with ✕.

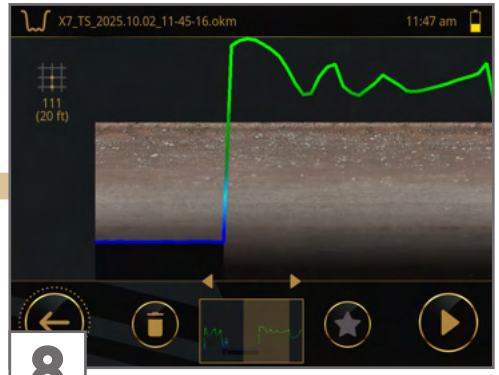


6

Enter the Field Length that you actually measured: Tap on the arrows (left/right) or turn the Knob.

7

Confirm with ✓ to save your scan
OR discard the details and proceed with your scan with ✕



8

The scan file is opened in the File Explorer – see 5.12.4 Review Tunnel Scan on page 74.

Confirm with ✓ to discard the scan and return to the Main Menu
OR proceed with your scan with ✕.

5.9 PINPOINTER

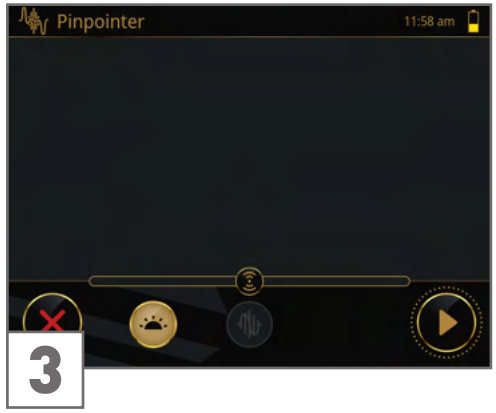
Use the operating mode Pinpointer to detect and locate anomalies and metal objects in real time. This scan cannot be saved.

This operating mode only uses the sensor pair in the Super Sensor, not those in the Extenders. The Extenders can still remain connected, but are ignored for the measurement.

5.9.1 Prepare Measurement

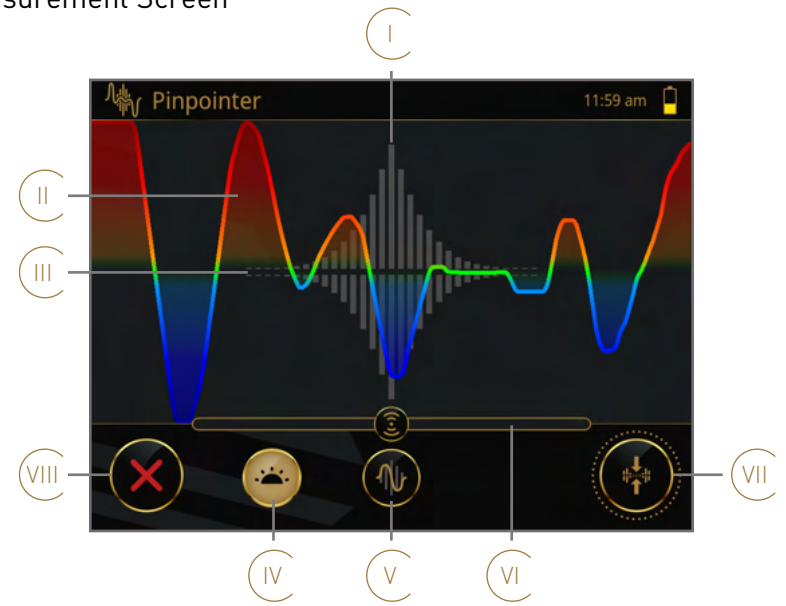
Connect the Super Sensor – see 3.2 Super-Sense System on page 13.

Open Pinpointer.



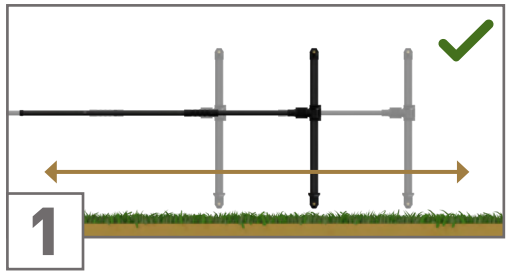
Hold the Super Sensor above neutral ground, and start with ▶.

5.9.2 Measurement Screen

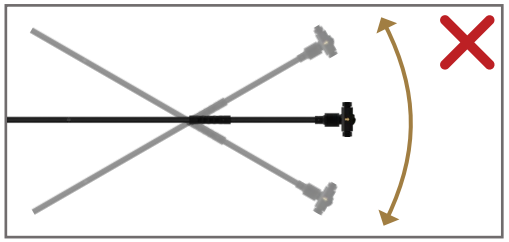


I	The Amplitude indicates the current signal strength at the exact location above which the Super Sensor is placed.
II	The Graph represents the signal values as color-coded graphs. The graph displays the signal values as color-coded graphics over a limited period of time.
III	Zero line represents neutral ground.
IV	LED Orbit: Tap to (de)active the visual feedback.
V	View: Tap to toggle between current Amplitude, color-coded Graph, and a combination of both.
VI	Sensitivity: Slide to decrease/increase the detection sensitivity. Set lower sensitivity when using Pinpointer on rough terrain or on scan fields with high mineralization.
VII	Ground Balance: Place the probe above neutral ground (no objects underground) and tap on the icon to reset the sensors.
VIII	Cancel: Exit Pinpointer and return to the Main Menu.

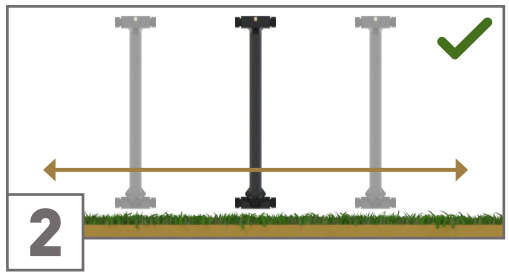
5.9.3 Perform Measurement



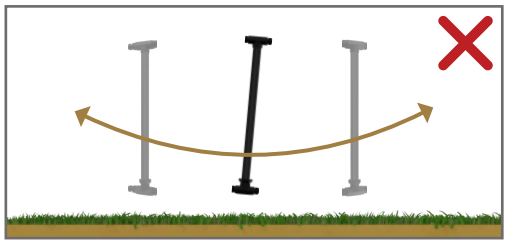
Hold the probe vertically.
Move the detector back and forth.



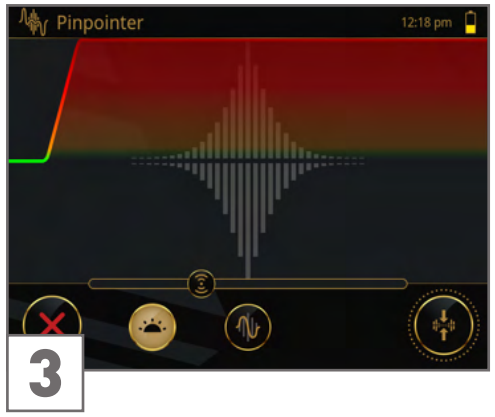
Keep the orientation of the probe parallel to your starting orientation.



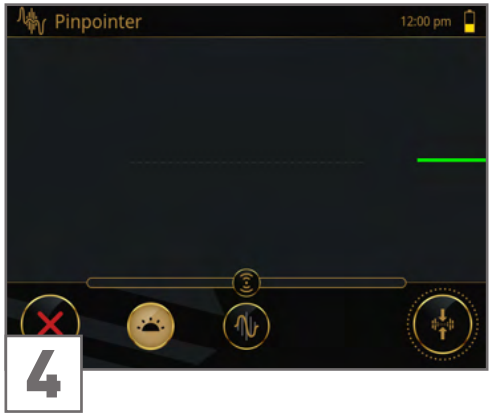
Move the detector to the left and right.



Do not pivot, swing or rotate the probe.



If the graphs become unstable or are "frozen", place the probe above neutral ground (no objects underground).



Tap on to perform a Ground Balance. The graphs will be reset to the zero line.

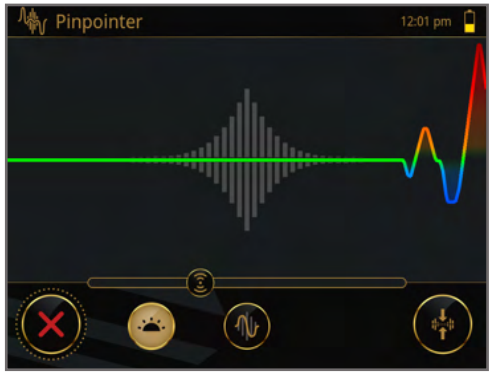
5.9.4 Interpret Measurement

As soon as the sensors detect a potential target, you get immediate feedback:

- direct visual feedback (if LED Orbit is enabled) and
- detailed visual representation.

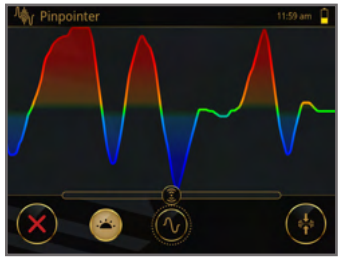
You may toggle between Graph only, Amplitude only, or a combination of both.

The LED orbit shows the color of the signal with the maximum amplitude.

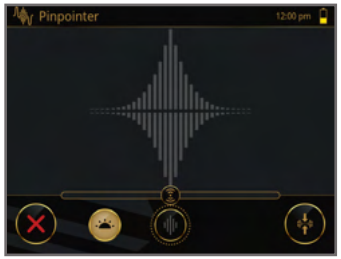


The graph is in the **GREEN** range (close to zero line) if there is no ferrous or magnetic target object.

The graph shows **RED** and **BLUE** peaks if the probe is pointing at the magnetic poles of a ferrous object.



The color-coded graph shows red, blue and green signals. These may indicate potential target anomalies.



The amplitude indicates a strong signal below the Super Sensor.

The amplitude indicates a weak signal below the Super Sensor.

5.10 3D VLF SCAN

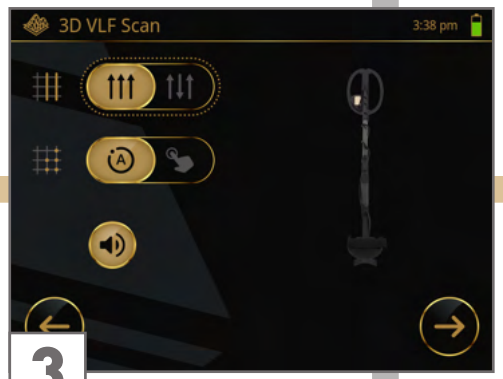
Use the operating mode 3D VLF Scan to get a detailed visualization of potential shallow target objects for further analysis in Visualizer 3D Studio prior to excavation.

Unlike conventional VLF scans, the coil is held static during a 3D VLF Scan instead of being swung.

5.10.1 Configure Measurement

Connect the VLF Coil
– see 3.5 VLF Coil + Telescopic Rod on page 15.

Open the operating mode 3D VLF Scan.



The recommended parameters for fast and easy scans are:

Scan Mode: Parallel
Impulse Mode: Automatic
Sound: ON

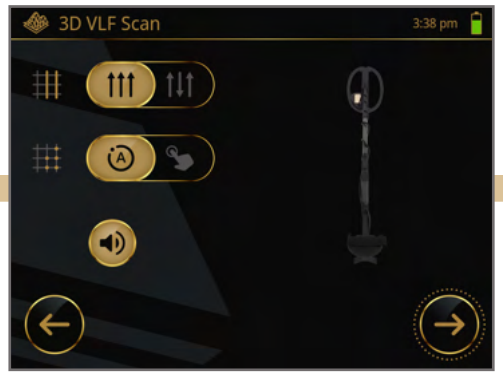
Impulse Mode **Automatic** Ⓐ
The impulses (scan values) are recorded continuously without any break.

Scan Mode **Parallel**
Scan all lines in the same direction.

GPS: only available if enabled in Settings
– see 4.5.3 Location on page 21

For rough terrain, you can select the Impulse Mode **Manual** : Every single impulse (scan value) requires the Knob/ to be pressed.

Regardless of the selected scan mode and impulse mode, you can tap on to switch ON / OFF the Sound.



Tap → to proceed with the VLF setup. Continue with step 7.

Very experienced OKM users can select the Scan Mode **Zigzag** to scan all scan lines forwards and backwards alternately.

7

Select from 5 preset Scan Profiles or choose Custom to set your preferences according to your experience.

For further Scan Profile details see
5.10.1 Configure Measurement on page 54.

8

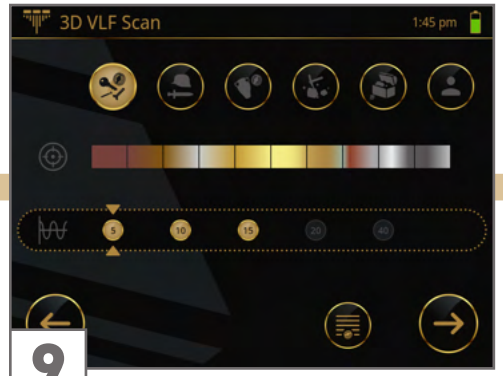
Switch OFF / ON Target-ID Zones

Target-ID is used to distinguish between the different types of metal objects. Show/hide Target-ID zones according to your preferences.

The colored scale corresponds to the 100 Target-IDs, grouped into 10 zones. Due to the fact that the Target-ID depends on the shape, properties, material composition and position of the target object, the resulting Target-ID can vary even for the same object. Thus, the zone colors provide only a vague indication of possible metal types.

Over time, you can use your experience to gain your own discrimination expertise in order to make your metal detection more efficient.

For further details see
5.10.1 Configure Measurement on page 54.



9

Choose between single and multi-frequency operation by selecting up to 3 frequencies.

Frequency: Low frequencies tend to give more depth to large targets. High frequencies tend to be more sensitive to small targets. If you are experiencing excessive ground noise at a particular location, you may switch to a single frequency to eliminate it.

For further details see
5.10.1 Configure Measurement on page 54.

10

Select Recovery Mode: Level 5 is preset as default for 3D VLF Scan to provide the best depth performance. Tap repeatedly to toggle between 5 levels to adjust the *Recovery Time* according to your needs.

For further details see
5.10.1 Configure Measurement on page 54.

GPS: only available if enabled in Settings – see 4.5.3 Location on page 21

11

Tap → to proceed with the Ground Balance.

12

Place the coil on neutral ground (no objects underground). Hold it approx. 5 cm | 2" above the soil surface and do not move it. As soon as you are ready, start the Ground Balance with ✓.

13

The progress is indicated on the left by two arrows moving towards each other. This can take up to 10 seconds.

When finished, both arrows are in the target position and the 'quietest' ground value is displayed on the right. This value is saved for the current measurement.

14

Ready to scan.

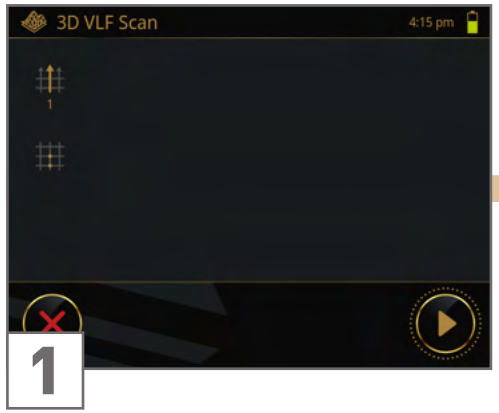
Continue with

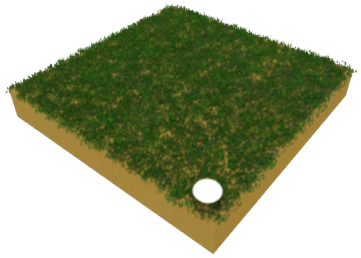
5.10.2 Perform Default 3D VLF Scan on page 58
5.10.3 Perform Manual 3D VLF Scan on page 60
5.10.4 Perform Zigzag 3D VLF Scan on page 62

If the Ground Balance failed, you will hear an error signal (2x low-pitch beep, if Sound is enabled) and see an error notification. Place the coil in a new position and repeat the process.

5.10.2 Perform Default 3D VLF Scan

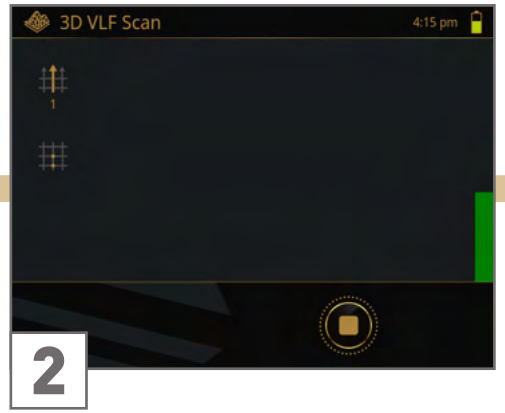
The default parameters (Scan Mode: Parallel | Impulse Mode: Automatic) are recommended for entry-level detector users and allow scanning in flat and wide as well as slightly sloping terrain.

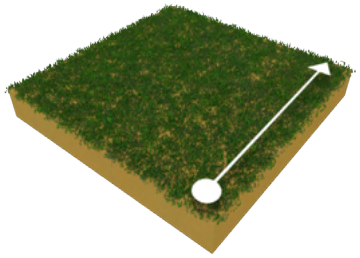




Go to the starting point of the first scan line (bottom right corner).

Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.

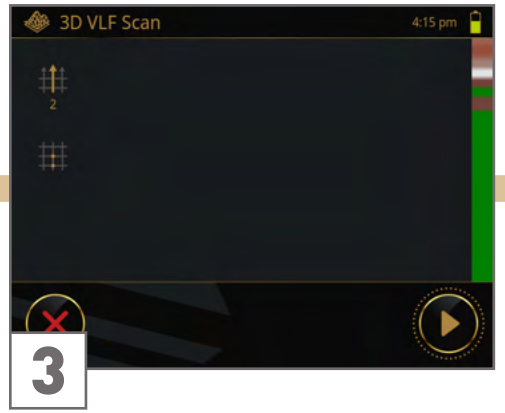


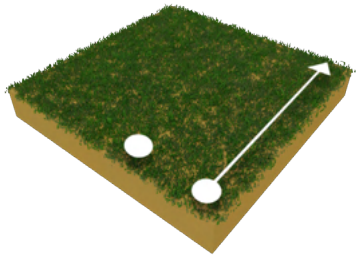


Walk to the end of the first scan line.

Press ■ or push the Knob as soon as you reach its end to set the field length for all following lines.

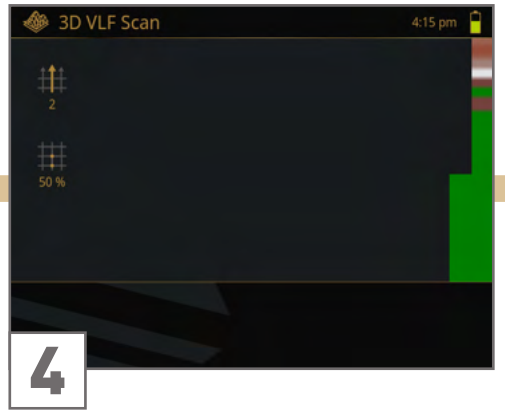
The scan image will be generated line by line to help you to follow your progress while measuring.

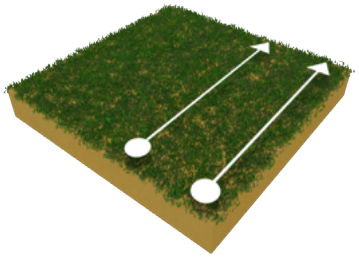




Return to your first starting point without scanning and take one step to the left: This is the starting point of the second scan line.

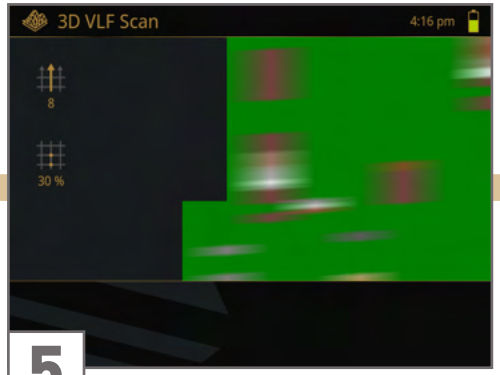
Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.



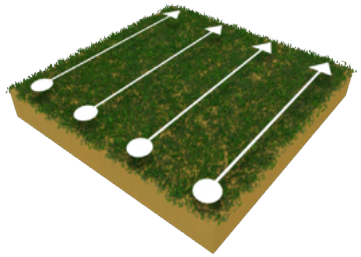


Walk parallel to your first scan line and at the same speed. The impulse sound should stop at the end of the line.

Unlike conventional VLF scans, the coil is held static during a 3D VLF Scan instead of being swung.



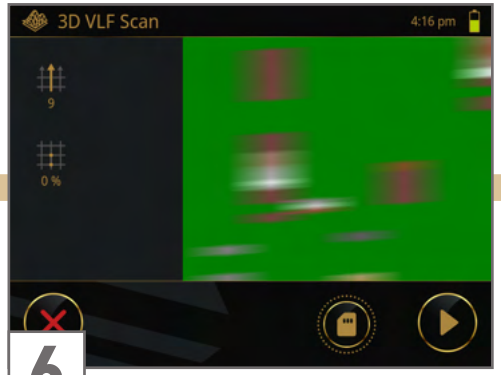
5



Return to the previous starting point and take a step to the left (without scanning): This is the starting point of the next scan line.

Press ▶ or push the Knob to start scanning and walk at the same speed until you reach the end of the scan line.

Repeat this to scan as many lines as you like.



6

Complete the scan by tapping on ▪ ...

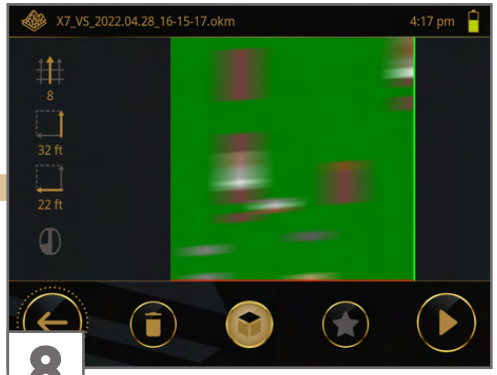
... or cancel with ✕.

Confirm with ✓ to discard the scan and return to the Main Menu OR return to your scan procedure with ✕.

7

Enter the Field Length ⬚ and Field Width ⬚ that you actually measured: Tap on the arrows (left/right) or turn the Knob.

Confirm with ✓ to save your scan or discard the details with ✕ and proceed with your scan.



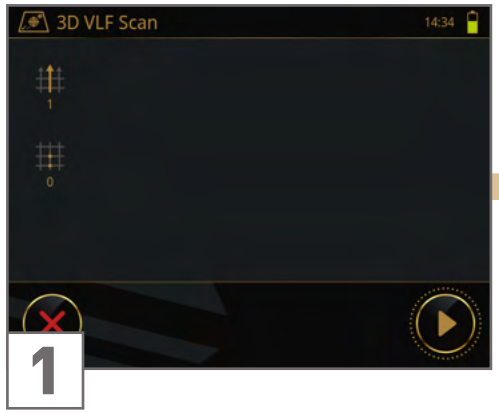
8

The scan file is opened in the File Explorer – see 5.12.5 Review 3D VLF Scan on page 74.

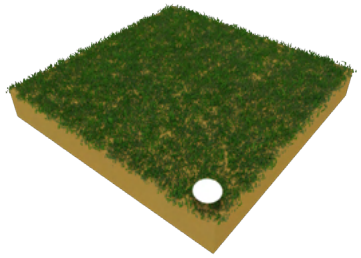
5.10.3 Perform Manual 3D VLF Scan

The parameters (Scan Mode: Parallel | Impulse Mode: Manual) are recommended for very rough terrain.

In Impulse Mode *Manual* each single impulse (scan value) is triggered manually one after the other at its own pace by pressing or pushing the Knob.



1

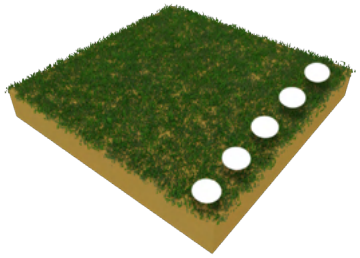


Go to the starting point of the first scan line (bottom right corner).

Press ▶ or push the Knob to start the first scan line.

Unlike conventional VLF scans, the coil is held static during a 3D VLF Scan instead of being swung.

2

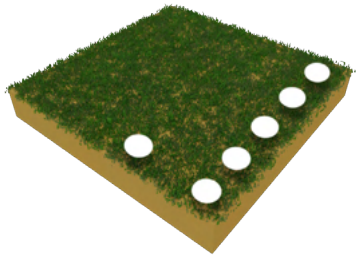


Take a step forward and press or push the Knob to record an impulse. Continue in this way until you reach the end of the first scan line.

Tap on ■ to finish the first line and thereby set the field length.

The scan image will be generated impulse by impulse and line by line to help you to follow your progress while measuring.

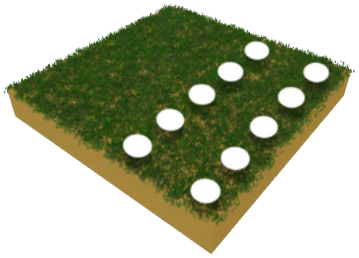
3



Return to your first starting point without scanning and take one step to the left: This is the starting point of the second scan line.

Press ▶ or push the Knob to start the second scan line and record the first impulse of your second scan line.

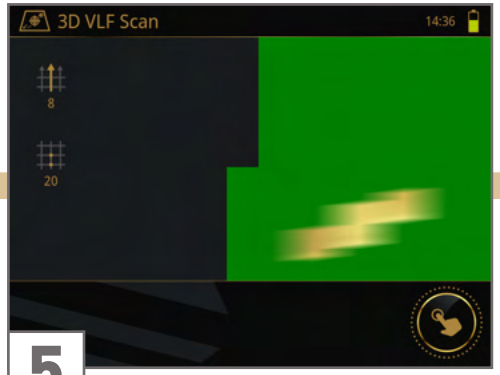
4



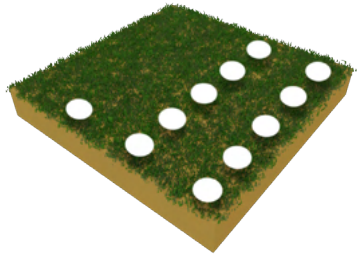
Take a step forward and press or push the Knob to record the next impulse. Continue until you reach the end of the scan line.

Scan parallel to your first scan line with the VLF coil heading into the same direction as in the first scan line.

The progress is indicated on the left. At 100% you have reached the end of the scan line. This is also indicated by an acoustic signal (if Sound is enabled).



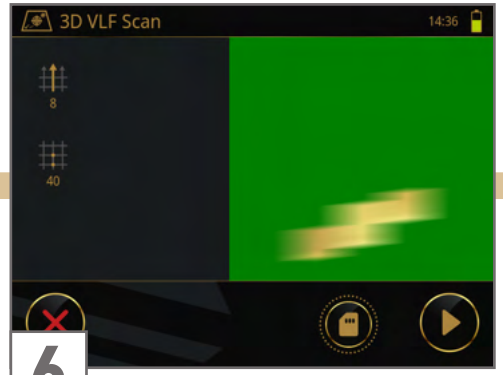
5



Return to the previous starting point and take a step to the left (without scanning): This is the starting point of the next scan line.

Press ▶ or push the Knob to start the scan line. Press or push the Knob to release an impulse at each step forward until you reach the end of the scan line.

Repeat this to scan as many lines as you like.

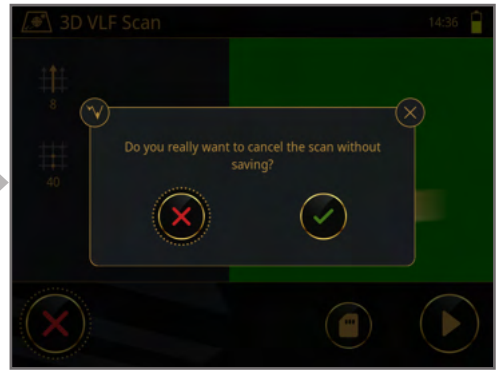


6

Complete the scan by tapping on ...

... or cancel with ✕.

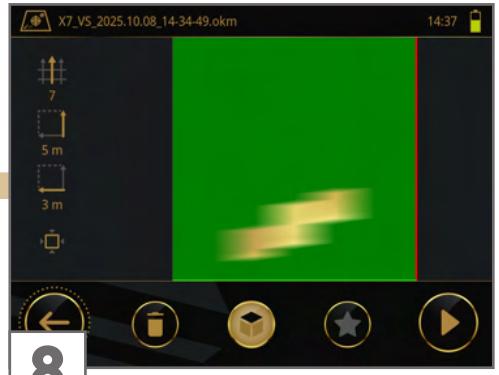
Confirm with ✓ to discard the scan and return to the Main Menu
OR return to your scan procedure with ✕.



7

Enter the Field Length and Field Width that you actually measured: Tap on the arrows (left/right) or turn the Knob.

Confirm with ✓ to save your scan or discard the details with ✕ and proceed with your scan.

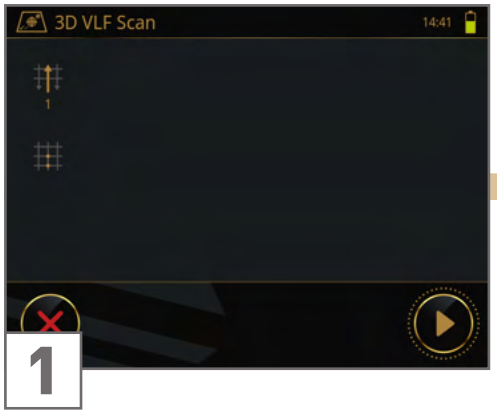


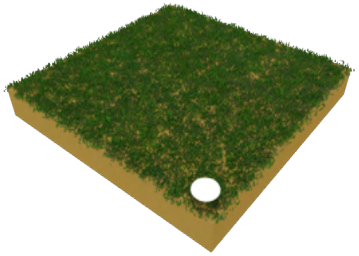
8

The scan file is opened in the File Explorer – see 5.12.5 Review 3D VLF Scan on page 74.

5.10.4 Perform Zigzag 3D VLF Scan

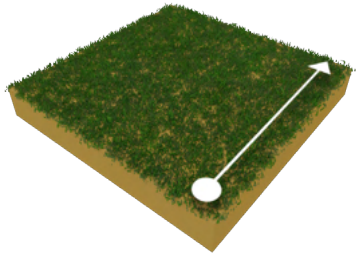
The parameters (Scan Mode: Zigzag | Impulse Mode: Automatic) are recommended for advanced detector users and can be applied in flat terrain.





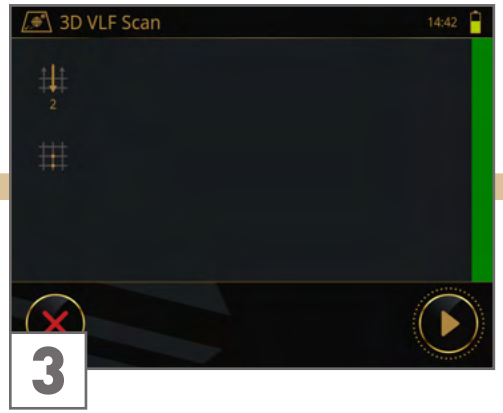
Go to the starting point of the first scan line (bottom right corner).

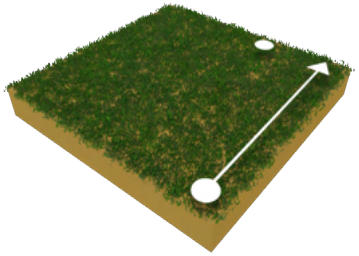
Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.



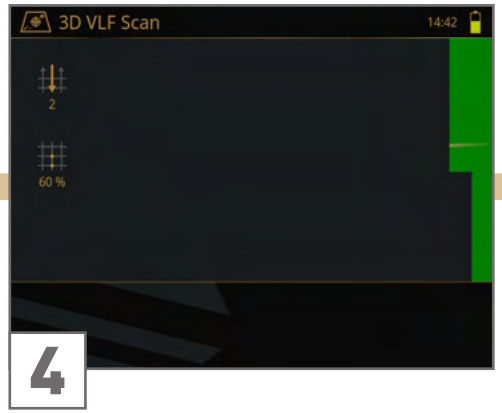
Walk to the end of the first scan line. Press ■ or push the Knob as soon as you reach its end to set the field length for all following lines.

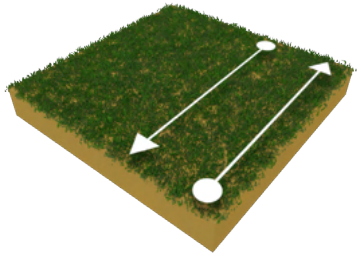
The scan image will be generated line by line to help you to follow your progress while measuring.





Remain at the end of the scan line and take a step to the left (without scanning).





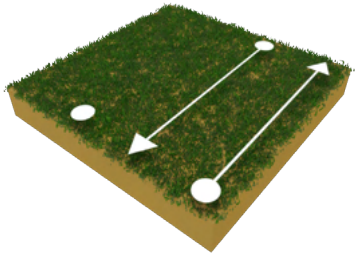
Press ▶ or push the Knob to start scanning. Start walking as soon as you press ▶.

Walk parallel to your first scan line but in reverse until you reach the end of the scan line.

Walk at the same speed as in the first scan line. The impulse signals should stop as soon as you reach the end of the line (if Sound is enabled).

Unlike conventional VLF scans, the coil is held static during a 3D VLF Scan instead of being swung.

5

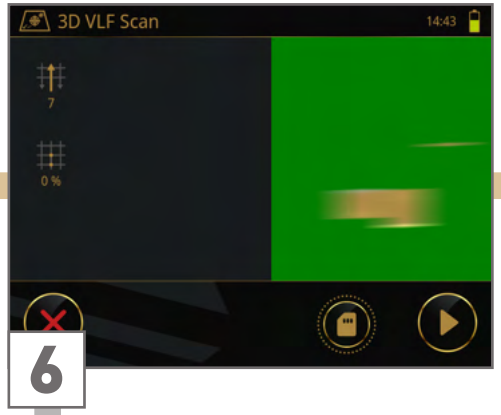


Remain at the end of the scan line and take a step to the left (without scanning).

Press ▶ or push the Knob to start scanning. Walk parallel to the first scan line (forwards) and at the same speed until you reach the end of the scan line.

Repeat steps 4 to 5 to scan as many lines as you like: Odd scan lines forwards, even scan lines backwards.

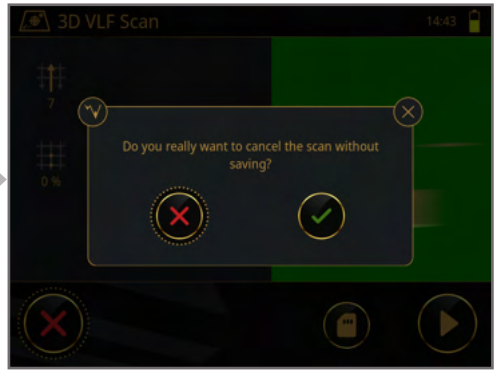
The current scan line direction (forwards/ backwards) is indicated by the golden arrows # and # on the left edge of the screen.



6

Complete the scan by tapping on ■ ...

... or cancel with ✕.

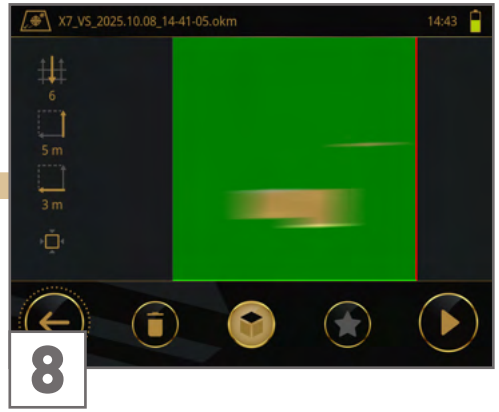


Confirm with ✓ to discard the scan and return to the Main Menu
OR return to your scan procedure with ✕.

7

Enter the Field Length ⬚ and Field Width ⬚ that you actually measured: Tap on the arrows (left/right) or turn the Knob.

Confirm with ✓ to save your scan or discard the details with ✕ and proceed with your scan.



8

The scan file is opened in the File Explorer – see 5.12.5 Review 3D VLF Scan on page 74.

5.11 VLF METAL DETECTION

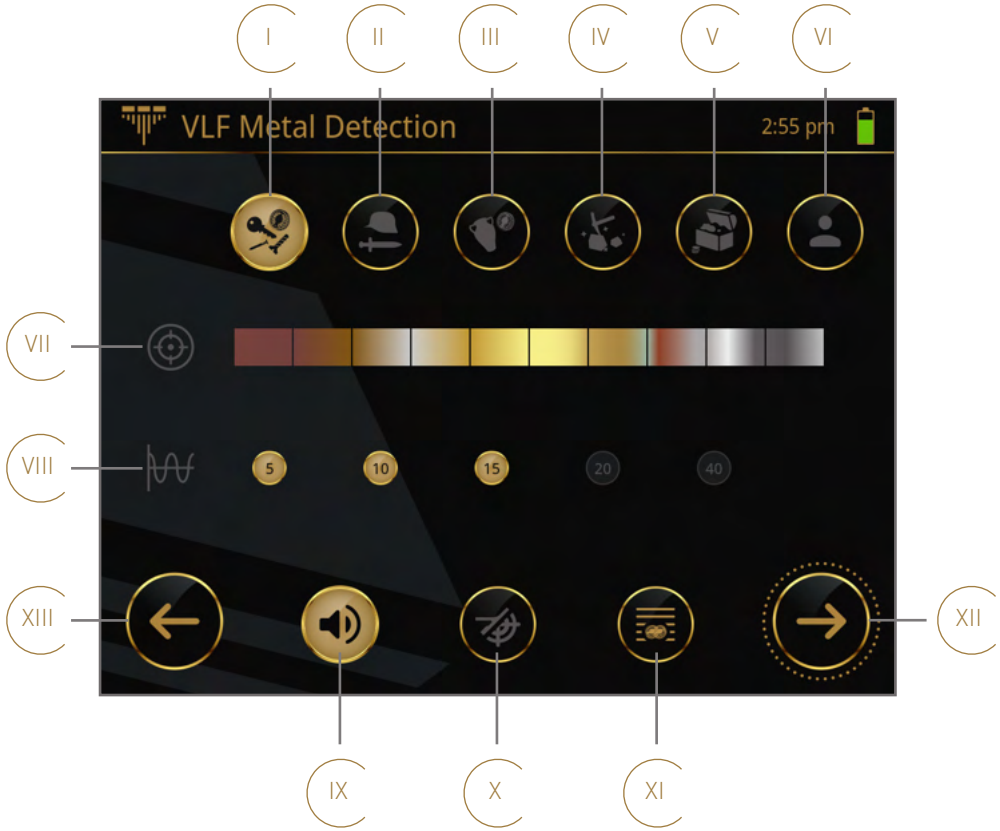
Use the VLF Metal Detection mode to detect metal objects at shallow depths in the ground.

This scan cannot be saved.

Connect the VLF Coil – see 3.5 VLF Coil + Telescopic Rod on page 15.

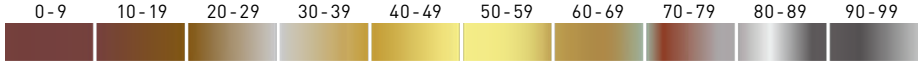
Open the operating mode VLF Metal Detection.

5.11.1 Configure Measurement



	Scan Profile	Type of Metal	Target-ID Zones	Frequencies
I	All Metal keys, coins, nails, screws, jewelry, artifacts, weapons	iron, steel, aluminum, gold, brass, bronze, copper, silver, lead	0-99	5 | 10 | 15 kHz
II	Militaria armor, badges, weapons, ammunition, accessories, aircrafts, vehicles	iron, steel, aluminum, brass, bronze, lead	0-39 | 80-99	5 | 10 | 15 kHz
III	Relics coins, jewelry, vessels, artifacts, ceramics, tools, figurines	silver, gold, bronze, copper	50-99	10 | 15 | 20 kHz
IV	Gold jewelry, coins, bars	gold	20-89	10 | 20 | 40 kHz
V	Treasures treasure chests, coin hoards, vessels	iron, gold, bronze, copper, silver	0-9 | 50-99	5 | 10 | 40 kHz
VI	Custom	Set your preferences according to your experience.		

VII Target-ID is used to distinguish between the different types of metal objects. Show/hide Target-ID zones according to your preferences. Target-IDs range from 0 to 99



The colored scale corresponds to the 100 Target-IDs, grouped into 10 zones. Due to the fact that the Target-ID depends on the shape, properties, material composition and position of the target object, the resulting Target-ID can vary even for the same object. Thus, the zone colors provide only a vague indication of possible metal types.

Gold coins, for example, can under certain conditions appear at Target-ID 0 in VLF mode, but may be detected at a more valuable Target-ID (e.g. value 70) in Pinpoint mode. Thus, it is always useful to double-check signals using Pinpoint mode.

Over time, you can use your experience to gain your own discrimination expertise in order to make your metal detection more efficient.

VIII Frequency: Choose between single and multi-frequency operation by selecting up to 3 frequencies. Low frequencies tend to give more depth to large targets. High frequencies tend to be more sensitive to small targets. If you are experiencing excessive ground noise at a particular location, you may switch to a single frequency to eliminate it.

IX Sound: Tap to (de)active the acoustic feedback.

X Pinpoint Mode: Use Pinpointer to locate target objects more precisely. Toggle between *Automatic* and *Manual*.

Automatic: Pinpoint mode starts as soon as you stop swinging the VLF coil.
To return to the VLF mode, swing the coil.

Manual: Pinpoint mode starts by tapping on .
The mode is active for 60 seconds and automatically returns to VLF mode.

XI Recovery Mode: Toggle between 5 levels by tapping repeatedly.
Cycle through the levels to adjust the *Recovery Time* according to your needs:

Level 1	best object separation	least depth	
Level 2	good object separation	low depth	
Level 3	medium object separation	medium depth	
Level 4	low object separation	good depth	*preset as default for VLF Metal Detection.*
Level 5	less object separation	best depth	*preset as default for 3D VLF Scan.*

Recovery Time is the decay time between two signals. The faster the recovery time, the better the detector can separate objects that are close to each other.
If the recovery time is too slow, nearby objects may be recognized as a single object.

XII Continue: Tap to proceed with the Ground Balance
– see 5.11.3 Measurement Screen on page 67.

XIII Back arrow: Tap to exit VLF Metal Detection and return to the Main Menu.

5.11.2 Perform Ground Balance

Ground balancing reduces the interference signals ('noise') caused by ground mineralization and allows clearer detection of targets. In VLF Ground Balance, the detector selects the 'quietest' signal channel based on various criteria.

Place the coil on neutral ground (no objects underground). Hold it approx. 5 cm | 2" above the soil surface and do not move it. As soon as you are ready, start the Ground Balance with ✓.

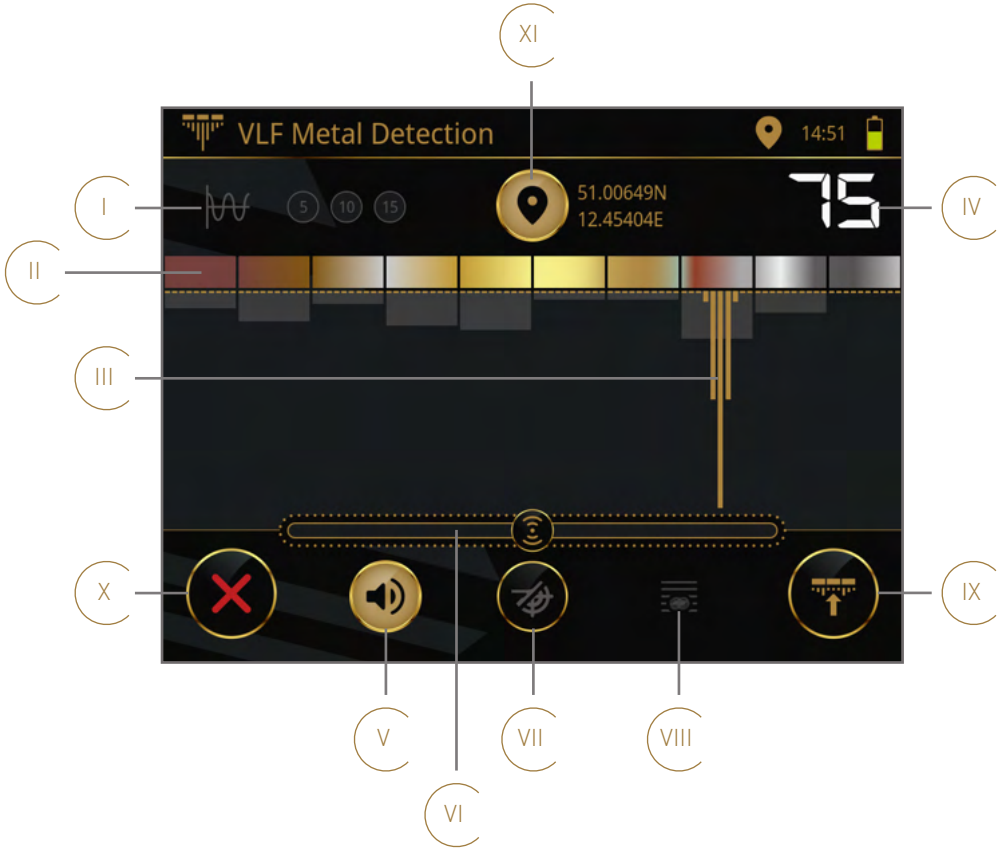
The progress is indicated on the left by two arrows moving towards each other. This can take up to 10 seconds.

When finished, both arrows are in the target position and the 'quietest' ground value is displayed on the right. This value is saved for the current measurement.

If the Ground Balance is successful, you will hear a confirmation signal (2x high-pitch beep, if Sound is enabled) and the scan screen is displayed immediately.

If the Ground Balance failed, you will hear an error signal (2x low-pitch beep, if Sound is enabled) and see an error notification. Place the coil in a new position and repeat the process.

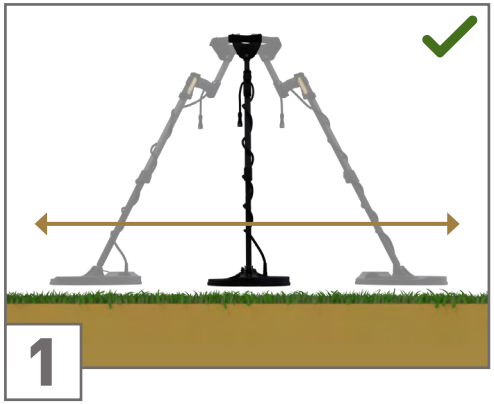
5.11.3 Measurement Screen



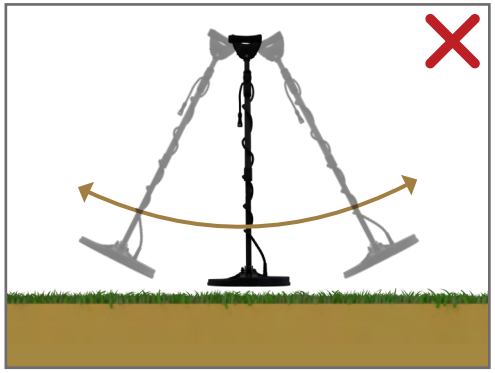
I	Frequencies that have been selected during configuration – see on page 64.
II	Target-ID Zones that were previously selected. Tap on the color boxes even during the active scan to show/hide Target-ID zones. By hiding Target-ID zones, undesired objects can be masked out.
III	The golden bars show the maximum amplitude of the current detected target object. The gray bars in the background show the accumulated values over a period of time.
IV	Target-ID shows the position of the maximum amplitude in the Target-ID zones 0 to 99.
V	Sound: Tap to (de)active the acoustic feedback.
VI	Sensitivity: Slide to decrease/increase the detection sensitivity.
VII	Pinpoint Mode: *Automatic*: Pinpoint mode starts as soon as you stop swinging the VLF coil. To return to VLF mode, swing the coil. *Manual*: Tap to start Pinpoint mode. The mode is active for 60 seconds - this is indicated by the countdown in the button. Pinpoint mode can be stopped at any time by tapping on the button to return to VLF mode.
VIII	Recovery Mode that has been selected during configuration – see 5.11.1 Configure Measurement on page 64.
IX	Ground Balance: Place the coil above neutral ground and tap on the icon to perform a Ground Balance – see 5.11.3 Measurement Screen on page 67.
X	Cancel: Tap to exit VLF Metal Detection and return to the Main Menu.
XI	GPS shows – if active – the current coordinates in the selected format. GPS can be switched ON/OFF for the scan or completely deactivated in Settings. For more details refer to 4.5.3 Location on page 21.

5.11.4 Perform Measurement

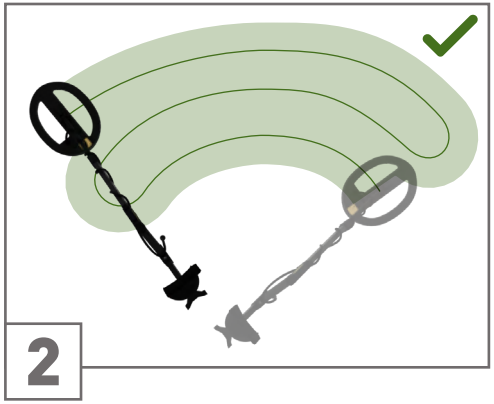
The eXp 7000 with VLF Coil is a motion detector, which means that the VLF coil must be moved over the ground to detect a target. If the coil is held motionless above a target, it will not detect it. The scan movement from one side to the other is called "swinging". If the coil is swung inaccurately, you can easily miss objects or generate false signals.



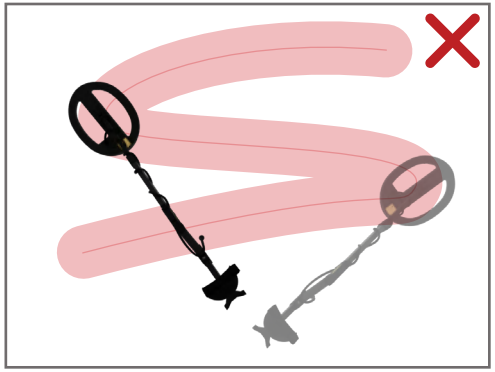
Swing the coil from one side to the other, closely and parallel to the ground (approx. 5 cm | 2" above the soil surface).



Do not sweep the coil along the ground. Avoid too large distances to the ground – especially at the sides.



Swing the coil smoothly from one side to the other – approximately at walking pace.



Make sure that the scanned areas overlap with each swing to ensure that the scan field is scanned without skipping potential targets.

If the signals become unstable, this is indicated by a flashing ⚠.
If no Ground Balance is performed, you will hear a warning sound every 10 s (2x beep, if Sound is enabled).

Place the coil above neutral ground.
Tap on "/⚠ to perform a Ground Balance – see 5.11.3 Measurement Screen on page 67.

During the ground balance procedure, the detector reselects the 'quietest' signal channel and returns to the scan screen. The sensitivity will be reset to zero.

A new Ground Balance may be recommended/required during the measurement if the detected signals become unstable due to changes in the soil.

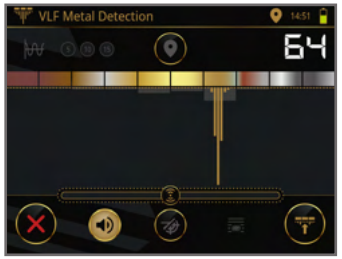
5.11.5 Interpret Measurement

As soon as the coil detects a potential target object, you get immediate feedback:

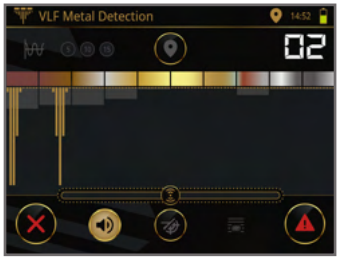
- acoustic feedback (if Sound is enabled),
- visual representation of maximum amplitude as bar graph,
- indication of the position of the maximum amplitude as two-digit Target-ID.

The scan screen shows the signal with the maximum amplitude and its corresponding Target-ID:

All Target-ID zones are active. No signal detected.



Strong signal detected in one of the active Target-ID zones. Displayed Target-ID is 64.



The signals become unstable. Perform a Ground Balance – see 5.11.3 Measurement Screen on page 67.

You can show/hide Target-ID zones individually. By hiding Target-ID zones, undesired objects can be masked out. No feedback sound is provided for signals that occur in hidden zones. However, the bar and the Target-ID are still displayed (grayed-out) to ensure that you do not miss any potential target objects.

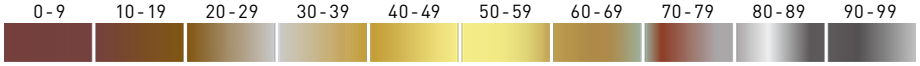
Strong signal detected in focus Target-ID zone: The bar graph and the corresponding Target-ID are highlighted.

Strong signal detected in hidden Target-ID zone: The bar graph and the corresponding Target-ID are grayed out. The acoustic feedback is muted.

Only selected Target-ID zones are active. No signal detected.

Remember:

Target-ID is used to distinguish between the different types of metal objects ranging from 0 to 99:



The colored scale corresponds to the 100 Target-IDs, grouped into 10 zones. Due to the fact that the Target-ID depends on the shape, properties, material composition and position of the target object, the resulting Target-ID can vary even for the same object. Thus, the zone colors provide only a vague indication of possible metal types.

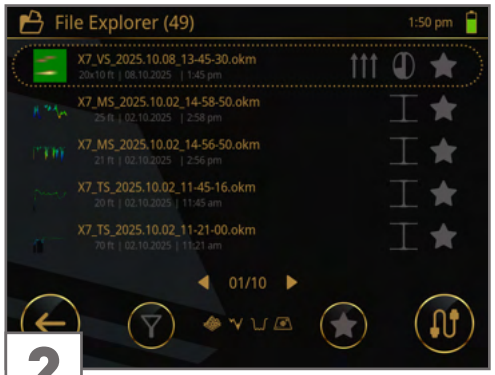
Gold coins, for example, can under certain conditions appear at Target-ID 0 in VLF mode, but may be detected at a more valuable Target-ID (e.g. value 70) in Pinpoint mode. Thus, it is always useful to double-check signals using Pinpoint mode.

Over time, you can use your experience to gain your own discrimination expertise in order to make your metal detection more efficient.

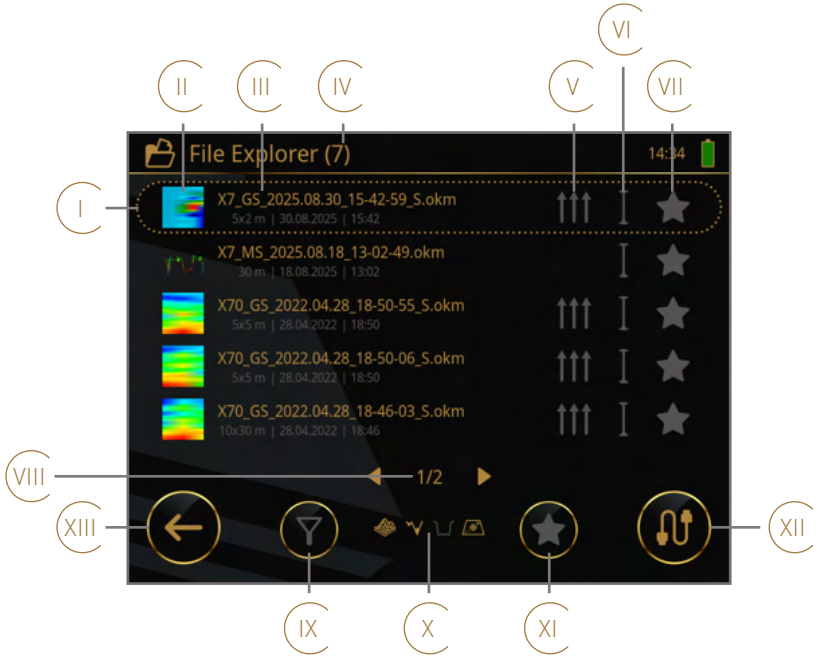
5.12 FILE EXPLORER AND FILE TRANSFER

Use File Explorer to view your stored scan files directly on the eXp 7000 display and to transfer files between the Control Unit and your Windows notebook.

Open File Explorer. The digit(s) in brackets indicates the total number of saved scan files.



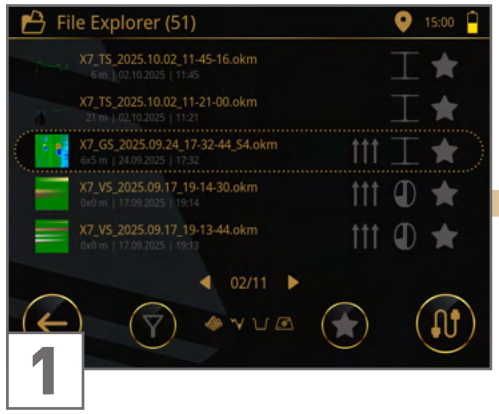
Tap directly on a scan image or select a row and push the Knob to open a scan file.



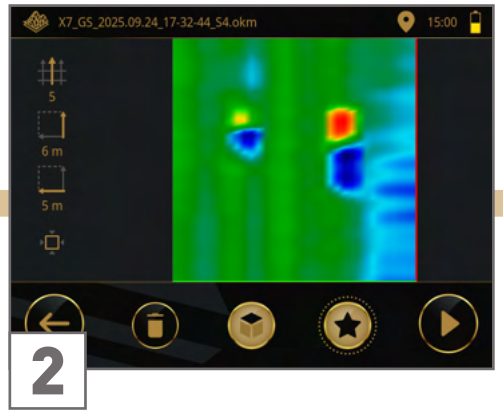
I	The selection frame helps to navigate through the list and select scan files.
II	Scan file thumbnail shows a small preview of the measurement.
III	Scan file details: The file name includes coded information about operating mode, date, time and probe. The second row shows the scan field dimensions, date and time in the formats as defined in 4.5.5 Regional Preferences on page 22.
IV	Number of currently displayed scan files.
V	Scan Mode that was defined for the corresponding measurement.
VI	Probe setup or coil shows the chosen configuration for the scan.
VII	Starred: Indicates which scan files are currently marked as favorites – see 5.12.1 Filter Scans on page 71.
VIII	Page indicator shows your current position in the File Explorer.
IX	Filter *Operating Modes*: Tap to show/hide scan files according to their operating mode – see 5.12.1 Filter Scans on page 71.
X	Filter indicator shows which scan files are currently listed (golden) or hidden (gray).
XI	Filter *Favorites*: Tap to show only scan files that have been marked as favorites.
XII	Transfer Mode: Tap to start the Transfer Mode – see 5.12.6 Transfer Files on page 76
XIII	Back arrow: Tap to exit File Explorer and return to the Main Menu.

5.12.1 Filter Scans

The eXp 7000 can store scans from the following 4 operating modes:
3D Ground Scan, Mineral Scan, Tunnel Scan and 3D VLF Scan.

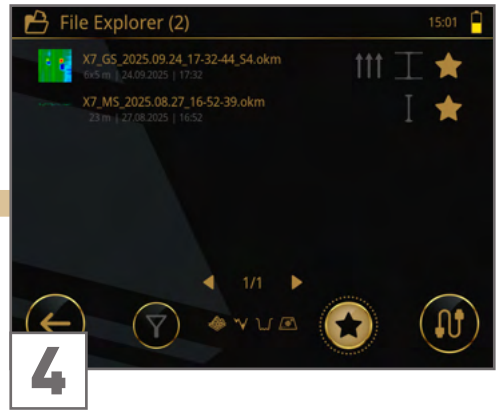


To mark a scan file as favorite, open it ...

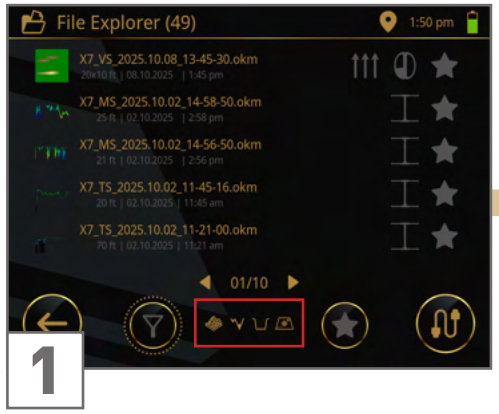


... and tap on ★.

Return to File Explorer and tap on ★ ...

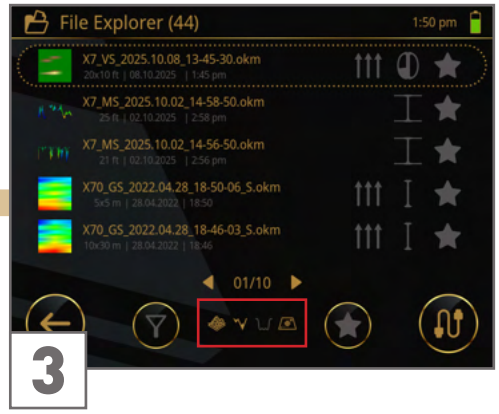


... to list only the scans marked as favorites.



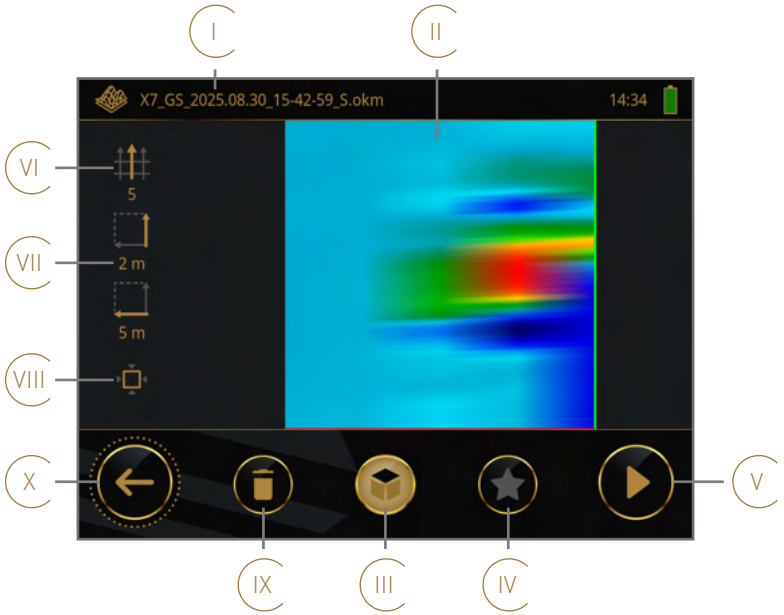
Tap on ▼ to open the filter dialog.

Tap on the operating modes to show/hide the corresponding scan files. Confirm with ✓.

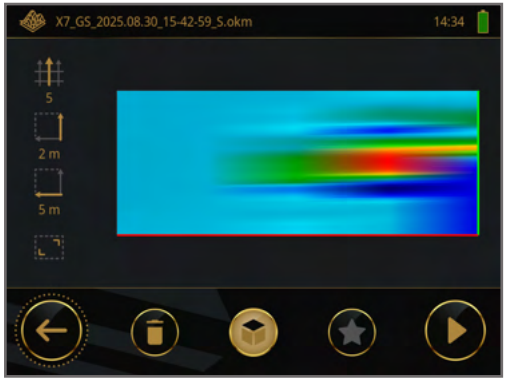


The hidden operating modes are displayed in gray in the center of the bottom row.

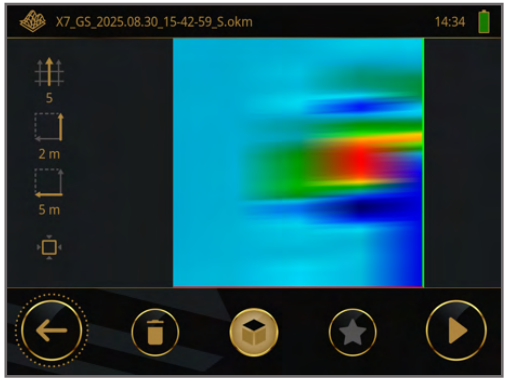
5.12.2 Review 3D Ground Scan



I	Scan file name including coded information about operating mode, date, time and probe.
II	Scan file image is displayed in top view (square) first.
III	Views: Tap on the button to toggle between top view and perspective view.
IV	Favorite: Tap to mark/unmark the scan file as favorite.
V	Replay the scan progress over the course of the measurement.
VI	Scan information indicates the scan mode and total number of scan lines.
VII	Scan field dimensions show the entered field length and field width. Tap on the icons to edit the entered dimensions.
VIII	Aspect ratio: Tap on the icon to toggle between a standardized square view and the real aspect ratio of your scan (based on the entered dimensions).
IX	Delete the single scan file.
X	Back arrow: Exit the Scan Preview and return to the File Explorer.

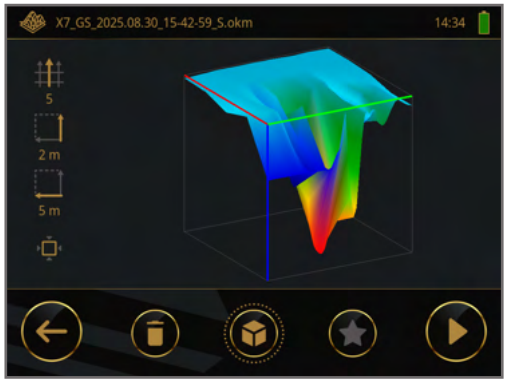


Real aspect ratio in Top View (2D).



Square scan image in Top View (2D).

Real aspect ratio in Perspective View (3D).

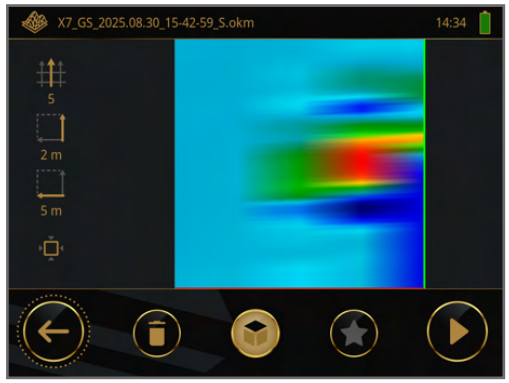


Square scan image in Perspective View (3D).

Use intuitive gestures to rotate, move, or scale the 3D Ground Scan or image on the display:

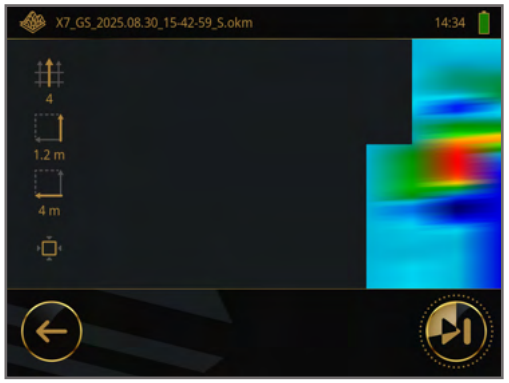
- Rotate: Drag by moving one fingertip over the screen to rotate the scan image.
- Move: Touch with two fingers (outside the scan image) and drag it to the desired spot.
- Scale: Pinch to zoom out and spread to zoom in.

Replay the scan process. This function is useful to recognize smaller signals that may have been displaced by larger signals in the course of the measurement.



Tap on ▶ to start the Scan Replay.

Turn the Knob clockwise to speed it up or counterclockwise to slow it down.

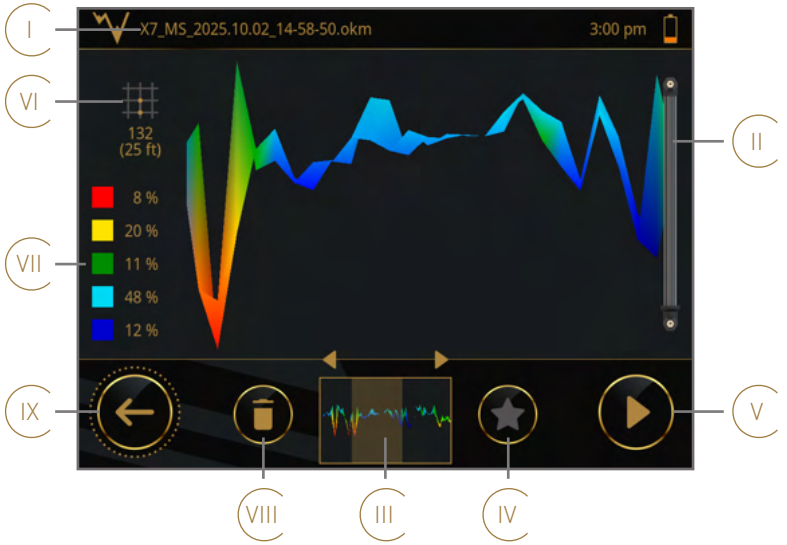


Tap on ▶| to stop the replay.

Tap on ← to return to the File Explorer.

For a more detailed analysis, transfer the scan files to a Windows notebook and open them in Visualizer 3D Studio – see 5.12.6 Transfer Files on page 76.

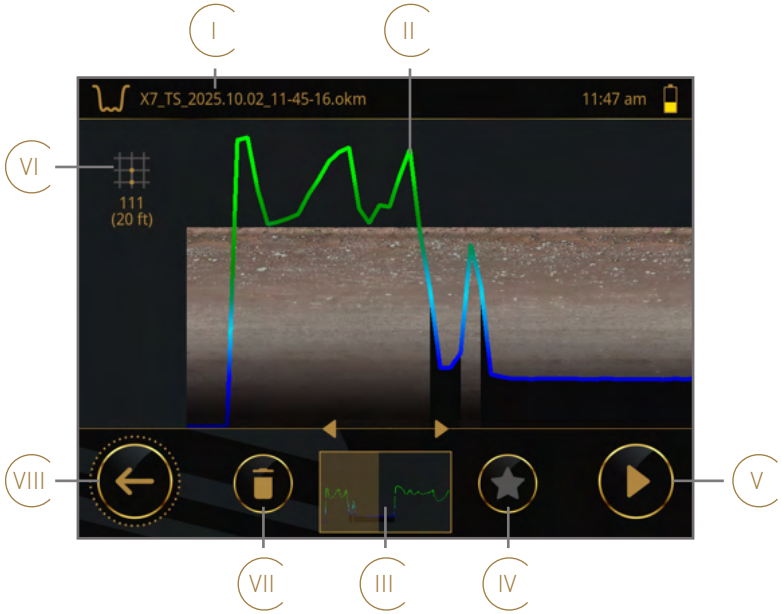
5.12.3 Review Mineral Scan



I	Scan file name including coded information about operating mode, date, time and probe.
II	The Mineral Scan graph is always displayed in side view.
III	Preview window allows you to navigate through the entire scan. Scroll back and forth to view the selected area in a larger format.
IV	Favorite: Tap to mark/unmark the scan file as favorite.
V	Replay the scan progress over the course of the measurement. Tap on ▶ to start the Scan Replay. Turn the Knob clockwise to speed up the process or counterclockwise to slow it down. Tap on ▶| to stop the replay.
VI	Scan information indicates the number of scan impulses and length of the scan line.
VII	Percentage-based color distribution map showing the total occurrence of each color.
VIII	Delete the single scan file.
IX	Back arrow: Exit the Scan Preview and return to the File Explorer.

For a more detailed analysis, transfer the scan files to a Windows notebook and open them in Visualizer 3D Studio – see 5.12.6 Transfer Files on page 76.

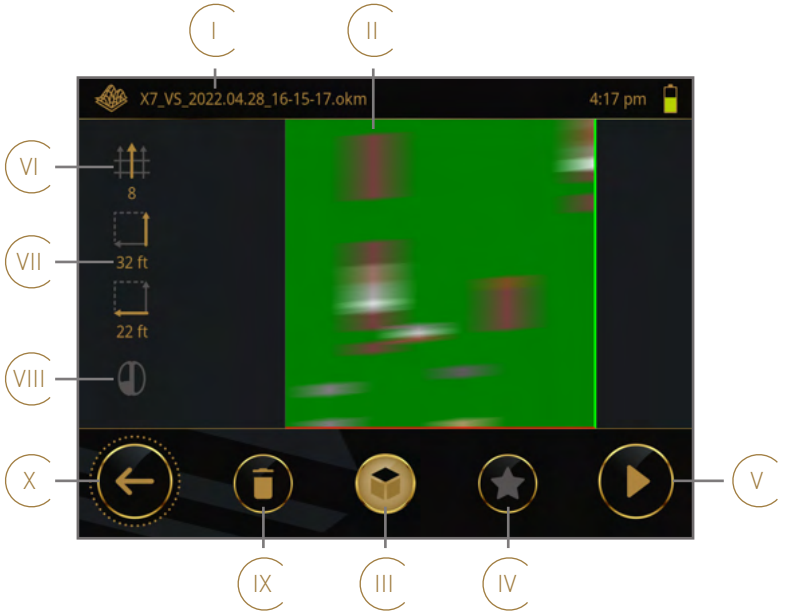
5.12.4 Review Tunnel Scan



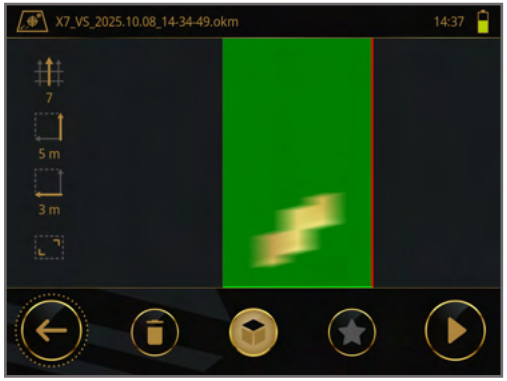
I	Scan file name including coded information about operating mode, date, time and probe.
II	The Tunnel Scan graph is always displayed in side view.
III	Preview window allows you to navigate through the entire scan. Scroll back and forth to view the selected area in a larger format.
IV	Favorite: Tap to mark/unmark the scan file as favorite.
V	Replay the scan progress over the course of the measurement. Tap on ▶ to start the Scan Replay. Turn the Knob clockwise to speed up the process or counterclockwise to slow it down. Tap on ▶| to stop the replay.
VI	Scan information indicates the number of scan impulses and length of the scan line.
VII	Delete the single scan file.
VIII	Back arrow: Exit the Scan Preview and return to the File Explorer.

For a more detailed analysis, transfer the scan files to a Windows notebook and open them in Visualizer 3D Studio – see 5.12.6 Transfer Files on page 76.

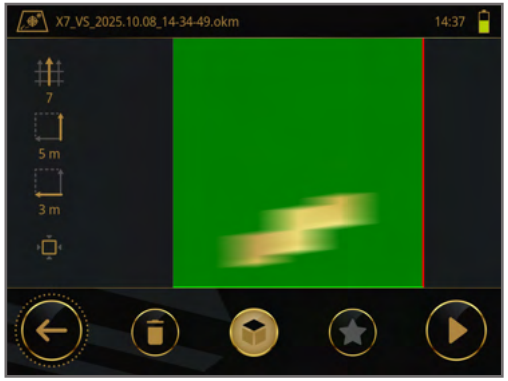
5.12.5 Review 3D VLF Scan



I	Scan file name including coded information about operating mode, date, time and probe.
II	Scan file image is displayed in top view (square) first.
III	Views: Tap on the button to toggle between top view and perspective view.
IV	Favorite: Tap to mark/unmark the scan file as favorite.
V	Replay the scan progress over the course of the measurement.
VI	Scan information indicates the scan mode and total number of scan lines.
VII	Scan field dimensions show the entered field length and field width. Tap on the icons to edit the entered dimensions.
VIII	Aspect ratio: Tap on the icon to toggle between a standardized square view and the real aspect ratio of your scan (based on the entered dimensions).
IX	Delete the single scan file.
X	Back arrow: Exit the Scan Preview and return to the File Explorer.

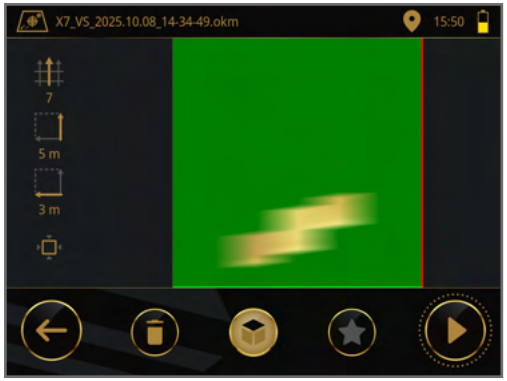


Real aspect ratio in Top View (2D).



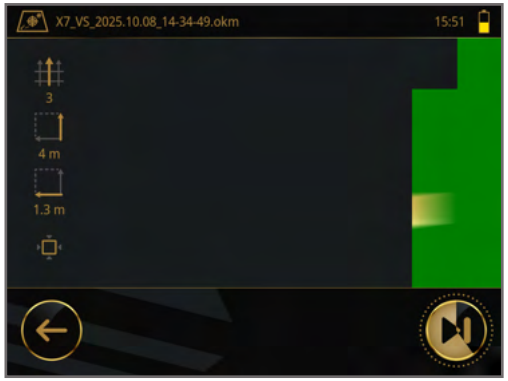
Square scan image in Top View (2D).

Replay the scan process. This function is useful to recognize smaller signals that may have been displaced by larger signals in the course of the measurement.



Tap on to start the Scan Replay.

Turn the Knob counterclockwise to speed it up or counterclockwise to slow it down.



Tap on to stop the replay.

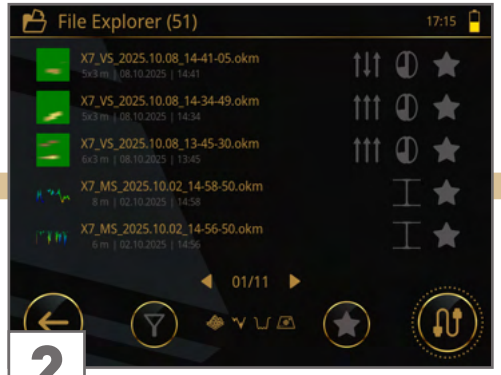
Tap on to return to the File Explorer.

For a more detailed analysis, transfer the scan files to a Windows notebook and open them in Visualizer 3D Studio – see 5.12.6 Transfer Files on page 76.

5.12.6 Transfer Files

The saved scan files are stored in the internal memory of the Control Unit.

Open *File Explorer* on your Control Unit.



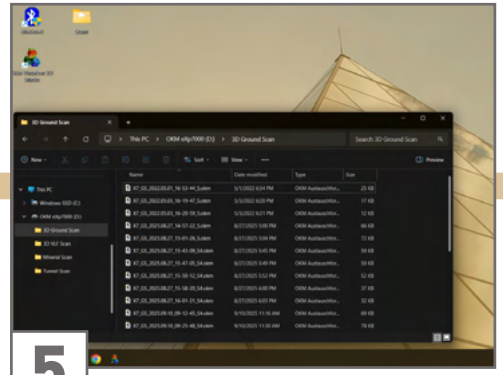
Tap on to start the Transfer Mode.

An animated LED sequence above the Knob indicates that the Transfer Mode is active.

Follow the instructions on the screen.

(1) Connect the Control Unit with the Windows notebook via USB-C cable.

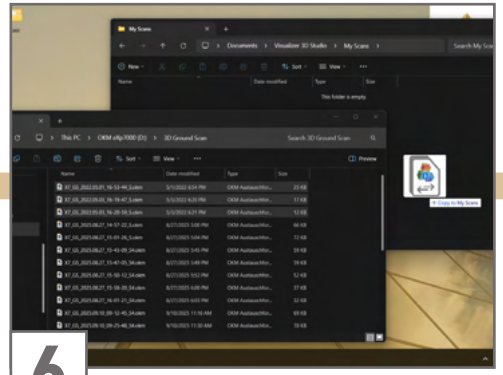
If your notebook does not have a USB-C socket, you can use a standard USB-C to USB-A adapter.



5

(2) Open Windows Explorer and select OKM eXp 7000.

Find your scan files in the corresponding folder in the Windows Explorer on your notebook.



6

(3) Transfer Scan Files.

You can now copy (Strg + C) or move (Strg + X) scan files to your notebook (Strg + V) and open them in Visualizer 3D Studio.

Moreover, you can transfer update files from the notebook to the Control Unit to run firmware updates – see 6.3 Firmware Updates on page 80.

7

(4) Exit Transfer Mode.

Tap on ✕ to exit the Transfer Mode and return to the File Explorer.

MAINTENANCE

6 MAINTENANCE

WARNING

ELECTRICAL HAZARD!
Keep water away from electronic components and cables.

6.1 CHECK AND CLEAN CONTROL UNIT AND PROBES

To always get the best performance from your detector, clean it regularly and check it for damages.

- Keep the Control Unit and probes away from strong magnetic fields.
- Avoid penetrating water, dust and dirt. If you cover the Control Unit with a plastic bag, make sure it can 'breathe' to avoid overheating and condensation inside.
- Check for blockages in the probe sockets/probe plugs and charger socket. Remove any dirt and particles.
- Use the Protective Caps to protect the open plugs/sockets from moisture or dirt.
- Clean the Control Unit and probes with a soft, damp, lint-free cloth after each use. Do not use detergents or polishes.
- Recharge the battery regularly, see 4.1.2 Charge Battery on page 17.

6.2 REPLACE INTERNAL BATTERY

Turn the Control Unit upside down to view the bottom. Open the battery compartment cover by removing the 6 Torx T10 screws.

Remove the battery carefully.

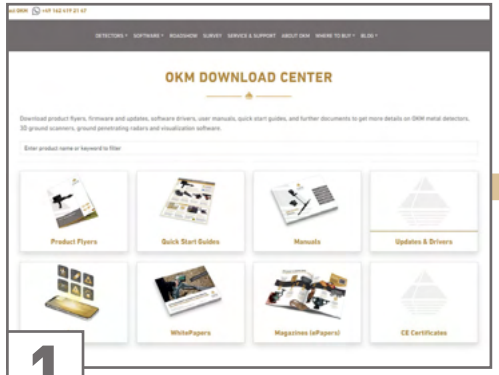
Disconnect the plug carefully. Make sure to pull the plug instead of the cable.

After replacing the battery, connect the plug of the new battery correctly.

Place the battery carefully back in the compartment. Do not kink or pinch the cable.

Close the battery compartment. Lock its cover with the 6 Torx T10 screws.

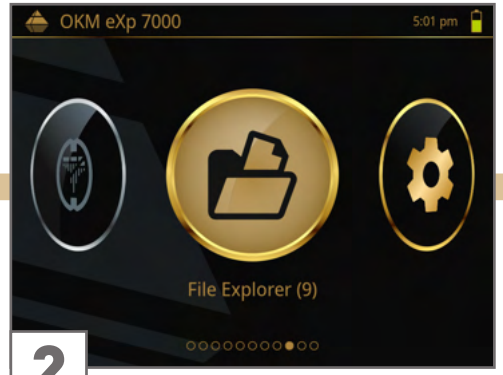
6.3 FIRMWARE UPDATES



1

Check the OKM Download Center at www.okmdetectors.com/updates for detector updates and download the latest eXp 7000 update file to your Windows notebook.

Update files usually end with the file extension .odu. The latest update is the one with the highest version number within the file name.



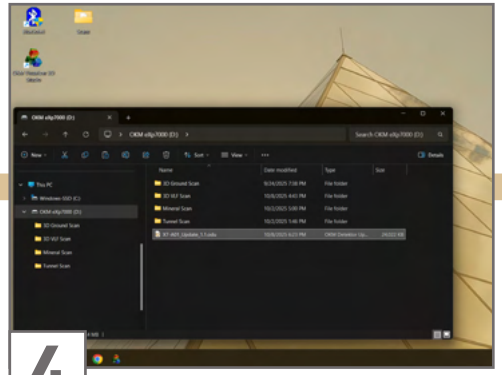
2

Open *File Explorer* on your Control Unit.

3

Tap on to start the Transfer Mode.

An animated LED sequence indicates that the Transfer Mode is active.



4

Open Windows Explorer on your notebook. Copy (Strg + C) the update file from your Windows notebook into the OKM eXp 7000 root directory (Strg + V).

We recommend copying (Strg + C) instead of moving (Strg + X) the file so that in the event of an error, a backup copy is still available on your Windows notebook, which can be copied again.

5

Tap on ✕ to exit the Transfer Mode and return to the File Explorer.

Each time the Transfer Mode is ended, the Control Unit scans the internal memory for new files. If an update file is detected, you will see the following notification (Step 6).

6

Confirm with ✓ to execute the update immediately ...

... OR tap on ✕ to cancel the update and return to the File Explorer.

Once an update process has been canceled, the OKM eXp 7000 will not ask for it again. Return to Step 2 and repeat the process to trigger an update.

7

Follow the instructions on the screen and wait until the update is complete.

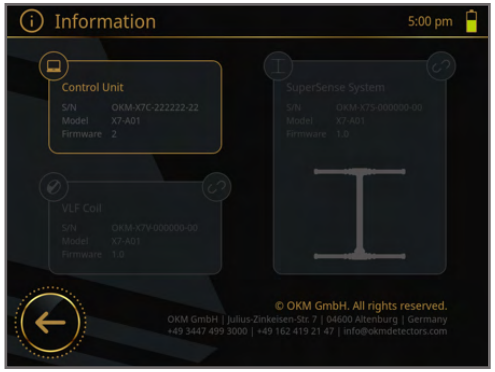
8

Confirm with ✓ to shut down the Control Unit. After restarting it, you can use the detector as usual.

6.4 REGISTER/VERIFY DETECTOR

In order to register your detector and/or verify the detector authenticity, the manufacturer OKM GmbH requires information about your device. You can find these in Settings > Information:

- serial number
- Model
- Firmware
- OKM contact information



Get more information on registration and verification at www.okmdetectors.com/service

6.5 MAINTENANCE AND REPAIR BY OKM

Do not attempt to repair the device yourself. In case of technical problems, first read chapter 7 TROUBLESHOOTING on page 85. If your problem is not listed or can not be resolved, contact your local dealer (listed at www.okmdetectors.com/dealers) and/or the manufacturer

OKM GmbH	Web:	www.okmdetectors.com
Julius-Zinkeisen-Str. 7	Email:	info@okmdetectors.com
04600 Altenburg	Phone:	+49 3447 499 3000
Germany	WhatsApp/SMS:	+49 162 419 2147

Repairs should always be carried out by authorized personnel, e.g. your dealer and/or the manufacturer. This requires prior consultation.

If the device is defective and it's a warranty case, refer to 10 REPS & WARRANTIES on page 102. If the device is defective but it is not a warranty case, you may use the service OKM Device Check, which includes:

1. After prior consultation, send the device to your local dealer or to OKM in compliance with the transport instructions in 1 TRANSPORTATION AND STORAGE on page 5.
2. Authorized OKM personnel checks the functionality of the device.
3. If a defect is found, a repair cost estimate is provided to you.
4. You agree to authorize the repair or reject the offer.
5. You receive your device back. The customer is responsible for shipping costs and insurance.

NOTES

TROUBLESHOOTING

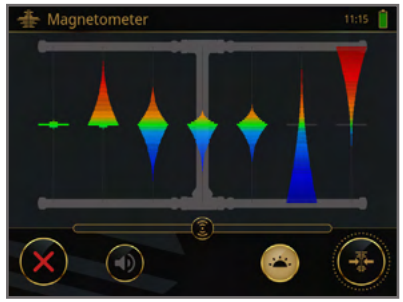
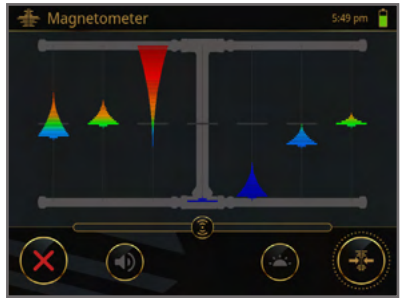
7 TROUBLESHOOTING

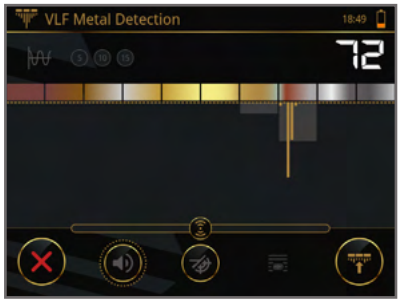
ERROR	POSSIBLE PROBLEM	SOLUTION
The Control Unit does not power on.	The internal battery is low or empty.	Charge the battery – see 4.1.2 Charge Battery on page 17.
	The ambient temperature is too low or too high.	Your device won't operate if the ambient temperature is below 14 °F (-10 °C) or higher than 140 °F (60 °C).
The Control Unit does not power off.	The system is overloaded or an unexpected software error has occurred.	Push and hold the Knob for at least 10 seconds to switch off the detector. If pushing and holding the Knob does not power off the Control Unit: Open the battery compartment on the bottom of the Control Unit and remove the battery plug – see 6.2 Replace Internal Battery on page 79. Wait a few seconds and plug the connector back in.
The Control Unit does not start charging.	The ambient temperature is too low or too high.	Your device won't charge if the ambient temperature is below 14 °F (-10 °C) or higher than 140 °F (60 °C). Ensure a temperature between 50 and 77 °F (10 and 25 °C) and wait until possible condensation (moisture) has evaporated before you start charging or switch on the device.
	The original OKM charger is not connected.	Make sure to use the original OKM charger.
	Besides the detector, another device is connected to the OKM charger.	Make sure that you have plugged in only one device for charging. The OKM charger supplies a maximum of 65 W. If a connected device already consumes the power limit, do not connect another device at the same time.
	The cable may be damaged.	Check the charging cable with another device to make sure it is working correctly, or try another standard USB-C cable.
The operating mode won't start and I see the following screen: 	The probe is not connected properly.	Check the probe connection.
	The required probe is not connected.	Plug in the SuperSense System – see 3.2 SuperSense System on page 13.

The operating mode won't start and I see the following screen: 	The probe is not connected properly. The required probe is not connected.	Check the probe connection. Plug in the SuperSense System – see 3.2 SuperSense System on page 13.
The operating mode won't start and I see the following screen: 	The probe is not connected properly. The required probe is not connected.	Check the probe connection. Plug in the SuperSense System – see 3.2 SuperSense System on page 13.
The operating mode won't start and I see the following screen: 	The probe is not connected properly. The required probe is not connected.	Check the probe connection. Plug in the Super Sensor – see 3.2 SuperSense System on page 13.

The operating mode won't start and I see the following screen: 	The probe is not connected properly. The required probe is not connected.	Check the probe connection. Plug in the Super Sensor – see 3.2 SuperSense System on page 13.
The operating mode won't start and I see the following screen: 	The probe is not connected properly. The required probe is not connected.	Check the probe connection. Plug in the Super Sensor – see 3.2 SuperSense System on page 13.
The operating mode won't start and I see the following screen: 	The probe is not connected properly. The required probe is not connected.	Check the probe connection. Plug in the VLF Coil – see 3.5 VLF Coil + Telescopic Rod on page 15.

The operating mode won't start and I see the following screen: 	The probe is not connected properly. The required probe is not connected.	Check the probe connection. Plug in the VLF Coil – see 3.5 VLF Coil + Telescopic Rod on page 15.
I get no signals between the Extenders in Magnetometer mode. 	The Extenders are not connected correctly.	The pair of sensors must be complete: Make sure that the Extenders are connected in pairs (top and bottom) on the same side.
The graphs become unstable or are "frozen". 	The soil conditions are not optimal (e.g. mineralization, contamination due to a lot of waste).	Place the probe above neutral ground (no objects underground) and tap on to perform a Ground Balance. The graphs will be reset to the zero line – see 5.5.3 Perform Measurement on page 37.

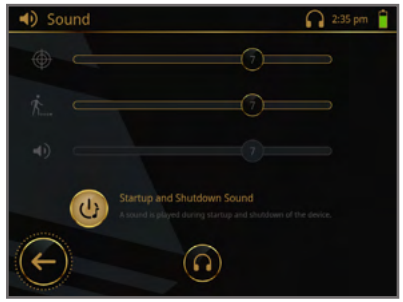
I don't hear any feedback sound in Magnetometer mode. 	Sound is disabled. Volume is too low.	Tap on the button to turn Sound ON (available at any time during scanning). Increase the feedback sound volume in Settings > Sound by moving the first slider . Move the third slider to adjust the general volume individually.
I don't see any LED Orbit feedback when using Magnetometer mode. 	LED Orbit is disabled.	Tap on the button to turn LED Orbit ON (available at any time during scanning).
I don't hear any feedback sound in 3D Ground Scan mode. 	Sound is disabled. Volume is too low.	Tap on the button to turn Sound ON. This option is only available in the 3D Ground Scan configuration screen. Increase the tempo pulses sound volume in Settings > Sound by moving the second slider . Move the third slider to adjust the general volume individually.

I don't hear any feedback sound in VLF Metal Detection mode. 	Sound is disabled. Volume is too low.	Tap on the button to turn Sound ON (available at any time during scanning). Increase the feedback sound volume in Settings > Sound by moving the first slider. Move the third slider to adjust the general volume individually.
I don't hear any feedback sound in VLF Metal Detection mode, but Sound is enabled. 	The detected object results in a signal within the muted Target-ID zones. Volume is too low.	Tap on the relevant Target-ID zone(s) to reactivate it and/or continue scanning until you receive signals in the activated Target-ID zone(s). For more details refer to 5.11.3 Measurement Screen on page 67. Increase the feedback sound volume in Settings > Sound by moving the first slider. Move the third slider to adjust the general volume individually.
I can hardly see the Target-ID in the top right corner in VLF Metal Detection mode. 	The detected object results in a signal within the grayed-out Target-ID zones.	Tap on the relevant Target-ID zone(s) to reactivate it and/or continue scanning until you receive signals in the activated Target-ID zone(s). For more details refer to 5.11.3 Measurement Screen on page 67.

When configuring the VLF Metal Detection, I see a red frame around the frequency options and a red warning icon ⚠ instead of the start button. 	No frequencies have been selected yet.	Select at least one frequency to proceed with the measurement. For more details refer to on page 64.
When configuring the VLF Metal Detection, I can not select further frequencies. 	A maximum of 3 frequencies can be selected.	Select up to 3 frequencies. To select other frequencies, deactivate a previously selected frequency. For more details refer to on page 64.
During the VLF scan, I occasionally see a flashing red warning icon ⚠ and hear a warning sound. 	The signals became unstable due to changes in the soil conditions (e.g. mineralization, contamination due to a lot of waste).	Place the coil above neutral ground. Tap on / ⚠ to perform a Ground Balance – see 5.11.3 Measurement Screen on page 67. If no Ground Balance is performed, you will hear a warning sound every 10 s (2x beep, if Sound is enabled).

The VLF Ground Balance failed. 	The VLF Coil has been moved during the Ground Balance process. The soil conditions are not optimal (e.g. mineralization, contamination due to a lot of waste).	Hold the VLF Coil approx. 5 cm | 2" above the soil surface and do not move it during the Ground Balance process. Place the VLF Coil on neutral ground (no objects underground). Hold it approx. 5 cm | 2" above the soil surface, do not move it and restart the Ground Balance.
When configuring the 3D Ground Scan, I see a red warning icon ⚠ instead of the start button. 	The Extenders are not connected correctly.	The pair of sensors must be complete: Make sure that the Extenders are connected in pairs (top and bottom) on the same side. For more details refer to 3.2.2 Extender Configurations on page 13.
I don't see the start button ▶ during the 3D Ground Scan. 	You are currently in the midst of the scan line in Automatic impulse mode.	The start button is only available after completing a scan line. Tap on it to start the next scan line.

I don't see the save button during the 3D Ground Scan. 	You are currently in the midst of the scan line. Too few lines have been scanned.	The save option is not available during the scan line. Finish the scan line. Measurements can only be saved after completing at least two scan lines.
I don't see the stop button during the 3D Ground Scan. 	You have already completed the first scan line.	The stop button is only available during scanning the first scan line. Tap on it to finish the first line and thereby set the field length.
The Transfer Mode in the Control Unit seems to be stuck. 	No connection to the Windows notebook. The Control Unit is waiting for user's action.	Connect the Control Unit with the Windows notebook via USB-C cable and follow the instructions on the screen. Follow the instructions on the screen. Continue with the procedure on the Windows notebook. Then, tap on to exit the Transfer Mode and return to the File Explorer.

I can't adjust the general volume. 	Headphones are connected.	The symbol in the status bar shows that the headphones are connected. The volume of the headphones is set directly at the headphones using the buttons **+** and **–**. For more information refer to 4.6 Pair/Connect Bluetooth Headphones on page 24.
I can't adjust the general volume. 	Low Power Mode is active.	If Low Power Mode is actived, the general sound volume is set to 3 (or less) and cannot be adjusted individually. To adjust it, you must first deactivate the Low Power Mode – see 4.5.4 Battery on page 21.
I can't adjust the display brightness. 	Low Power Mode is active.	If Low Power Mode is actived, the screen brightness is set to 3 (or less) and cannot be adjusted individually. To adjust it, you must first deactivate the Low Power Mode – see 4.5.4 Battery on page 21.

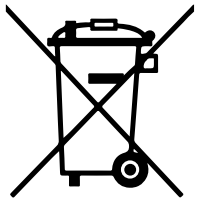
I can't see any GPS function in the scan setup. 	GPS is not available as long as it is disabled in the settings.	To enable GPS, go to settings and switch it on – see 4.5.3 Location on page 21.
I can't see my saved scan files in the File Explorer. 	Are the operating mode icons in the center of the bottom row displayed in gray? You switched off all operating modes in the filter.	Tap on Y to open the filter dialog and tap on the operating modes to show the corresponding scan files – see 5.12.1 Filter Scans on page 71.
I have copied an update file into the OKM eXp 7000 folder, but the update process does not start.	The folder path is not correct.	Copy the update file from your Windows notebook into the *OKM eXp 7000* root directory. We recommend copying instead of moving the file so that in the event of an error, a backup copy is still available on your Windows notebook, which can be copied again.
	The update file is older than the firmware version already installed.	Check the firmware version of the Control Unit, the SuperSense System and the VLF Coil in Settings > Information. Make sure you have copied the update file with the latest version into the *OKM eXp 7000* root directory.
My scan images look unusual and/or seem to be incorrect.	The sensor range has been exceeded or the probe orientation/alignment has been altered during the measurement.	Make sure you hold and move the probe in the correct orientation according to the recommendations of the selected operating mode.
	The detector is too close to electric or magnetic devices, or used in atmospheric conditions such as lightning.	Keep at least 160 ft (50 m) distance to magnetic fields, electric motors, speakers, phones, keys, and jewelry. Avoid using the detector during thunderstorms – see 5.1 Pacemakers on page 27.
My Control Unit switches off automatically.	Auto shut-off is implemented as standard	If the display is closed and the Knob is pressed by accident (e.g. during transport), auto shut-off takes effect after approx. 5 minutes of inactivity to save battery power.

NOTES

NOTES

DISPOSAL

8 DISPOSAL

	Dispose the device or its components in accordance with local regulations.
	RECYCLE USED PRODUCTS! Reusing extends product life spans and contributes to the source reduction of raw materials.
	**RECYCLE PROPERLY! Do not put devices with integrated battery in the trash or municipal recycling bins.**
	CHOKING AND ASPHYXIATION HAZARD! A Plastic Bag is Not a Toy! Keep Away from Children!

TECHNICAL SPECIFICATIONS

9 TECHNICAL SPECIFICATIONS

Manufacturer	OKM GmbH
Type	Treasure Detector
Model	X7-A01

The technical specifications are medial values. Slight variations are possible during operation.

9.1 CONTROL UNIT

Dimensions (L x W x H)	215 x 250 x 90 mm | 8.5 x 9.8 x 3.5"
Weight	1.86 kg | 66 oz
Battery	Li-ion, replaceable, 7.27 V, 10.2 Ah, 74.154 Wh
Input	12 V DC, 3 A max
Output	6.4 – 8.4 V DC, 15 W max
Operating Time	7 h @ 25 °C | 77 °F, medium brightness
Charging Time	3 h @ 10 – 30 °C | 50 – 86 °F
Display	8.4" Diagonal, 1024 x 768 Pixel LVDS IPS-LCD
Processing Unit	Main (ARM Cortex 4x-A53@1.6 GHz), Companions (1x M33 @ 96 MHz, 1x M4 @ 48 MHz, 1x M33 @ 38 MHz, 1x M7 @ 216 MHz)
Working Memory (RAM)	2 GB
Data Memory (eMMC)	8 GB
Operating Temperature	-10 – 50 °C | 14 – 122 °F
Storage Temperature	-20 – 60 °C | -4 – 158 °F
Air Humidity	5 % – 75 %
Safety Class	IP40
Waterproof	No
Data Transmission	USB-C
Feedback	acoustic, visual
Audio	built-in Speakers | Bluetooth-LowLatency (A2DP)

9.2 SUPER SENSOR

Dimensions (L x W x H)	1010 x 210 x 110 mm | 39.8 x 8.3 x 4.3"
Weight	0.94 kg | 33.2 oz
Cable Length	70" | 180 cm
Input	6.4 – 8.4 V DC, 4 W
Safety Class	IP40
Receiver	Dual/Hi-Gain, Vertical, Geophysical Phase Reader, EMSR
Sensor Technology	SCMI-15-D
Processing Unit	ARM Cortex-M33 @ 38 MHz

9.3 EXTENDER

Length	440 mm | 17.3"
Diameter	48 mm | 1.9"
Weight	0.2 kg | 7 oz
Input	5.0 V DC, 0.25 W max
Safety Class	IP40
Sensor Technology	SCMI-15-D

9.4 VLF COIL

Dimensions (L x W x H)	325 x 255 x 70 mm | 12.8 x 10.1 x 2.8"
Weight	0.7 kg | 24.7 oz
Cable Length	180 cm | 70"
Input	6.4 – 8.4 V DC, 2 W max
Safety Class	IP40
Technology	VLF
Processing Unit	ARM Cortex-M7 @ 216 MHz

9.5 DETACHABLE CARRYING ROD

Dimensions (L x Ø) Front Part (with clamp)	880 x 68 mm | 34.6 x 2.7"
Weight Front Part (with clamp)	0.9 kg | 31.7 oz
Dimensions (L x Ø) Midsection	705 x 35 mm | 27.8 x 1.4"
Weight Midsection Weight	0.42 kg | 14.8 oz
Dimensions (L x Ø) Rear Part	415 x 35 mm | 16.4 x 1.4"
Weight Rear Part (with counterweight)	1.06 kg | 37.4 oz
Length, assembled	1,935 mm | 76.2"
Weight, assembled	2.4 kg | 84.7 oz

WARRANTIES

10 REPS & WARRANTIES

To the extent applicable, the manufacturer OKM warrants that the Goods shall be free from material defects in workmanship and materials, so long as such Goods are used in conformance with their intended use and in strict compliance with the instructions of OKM, for a period of

- TWO (2) YEARS for new devices and demonstration devices,
- TWELVE (12) MONTHS for used devices,
- SIX (6) MONTHS for internal battery, Power Packs, chargers, and travel adapters,

the period shall start with the invoice date of said Goods to the Customer.

10.1 ACKNOWLEDGEMENTS, REPRESENTATIONS & WARRANTIES

THE WARRANTY SET FORTH IN THIS SECTION IS MADE IN LIEU OF ALL OTHER WARRANTIES (WHETHER EXPRESS OR IMPLIED), RIGHTS OR CONDITIONS, AND CUSTOMER ACKNOWLEDGES THAT EXCEPT FOR SUCH LIMITED WARRANTY, THE PRODUCTS ARE PROVIDED "AS IS." COMPANY SPECIFICALLY DISCLAIMS, WITHOUT LIMITATION, ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, OF ANY KIND, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, AND THOSE WARRANTIES ARISING FROM A COURSE OF PERFORMANCE, A COURSE OF DEALING OR TRADE USAGE.

The Customer represents and warrants, by entering into the Agreement and accepting the Services and/or Goods from OKM, that the Customer's execution, delivery, and performance of the Agreement has been duly authorized by all appropriate corporate action on the part of Customer, and the Agreement constitutes a valid and binding obligation of Customer enforceable against it in accordance with its terms.

The Customer agrees that he/she inspects the delivered Goods immediately upon receipt. If the Customer finds defects and/or experience technical problems, he/she agrees to contect the local dealer first (listed at www.okmdetectors.com/dealers). If the Customer cannot resolve the problem with the local dealer, the Customer will contact the manufacturer OKM:

OKM GmbH	Web: www.okmdetectors.com
Julius-Zinkeisen-Str. 7	Email: info@okmdetectors.com
04600 Altenburg	Phone: +49 3447 499 3000
Germany	WhatsApp/SMS: +49 162 419 2147

Defects must be claimed immediately in writing (at the latest 7 days after receipt) by using the OKM RMA Form provided at www.okmdetectors.com/rma and including the original proof of purchase (e.g. invoice).

Goods which are subject to complaints must be provided to the local dealer and/or to the manufacturer OKM for inspection. The Customer agrees to not send the Goods back without prior

consultation. The Customer must contact the local dealer and/or the manufacturer before returning the Goods.

Shipping costs (including fees, insurance etc.) to the local dealer and/or manufacturer are not covered by the dealer or manufacturer and are the responsibility of the customer.

10.2 INDEMNIFICATION

Filing a warranty claim does not automatically imply a refund. If a functional or material defect occurs and is claimed within the warranty period, the manufacturer OKM has the right to rectify the defect and provides the following warranty services at its own expense:

- rectification and repair of the defective device or component(s) **or**
- replacement of the defective component(s) **or**
- replacement with a new device.

After rectification or replacement, the return of the Goods from the manufacturer OKM to the Customer or assigned local dealer is covered by OKM and includes shipping insurance.

In cases in which the error cannot be eliminated, attempts at elimination are unreasonable or the elimination of the error has failed completely, the Customer may choose to

- request a reduction of the purchase price **or**
- withdraw from the contract and get the purchase price refunded.

For defects asserted within the warranty period but not eliminated, warranty is given until the defect is eliminated.

In the case of delivery of a new device, a new warranty period starts.

In the case of a warranty repair, the original warranty period and starting date applies to the Goods. A new warranty period applies only to the part replaced where such a replacement occurred.

10.3 LIMITATION OF LIABILITY

The Customer acknowledges that excluded from warranty are:

- poor performance due to improper use,
- signs of wear and tear,
- theft and/or loss of the device,

as well as defects and damages caused by:

- improper use and/or poor maintenance,
- defects created due to hitting and/or dropping the device,
- unauthorized alterations, repairs and/or modifications,
- abuse, misuse, deliberate destruction, accident,
- unusual physical and/or electric stress,
- exposure to moisture, water, extreme temperatures and/or fire,
- improper handling, transportation and/or storage,
- opening of any technical component and/or accessory.

If the device is defective but it is not a warranty case, refer to 6.5 Maintenance and Repair by OKM on page 82. If there is no warranty case, the costs for returning the device to the Customer are not covered are not covered by the dealer or manufacturer.

OKM SHALL NOT BE LIABLE FOR AND DISCLAIMS ANY AND ALL LOST PROFITS AND ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL OR EXEMPLARY DAMAGES, WHETHER ARISING OUT OF THE SERVICES, THE GOODS, OR THE PERFORMANCE BY OKM UNDER THE AGREEMENT. IN THE EVENT OF TERMINATION FOR ANY REASON, OKM SHALL NOT BE LIABLE TO CUSTOMER FOR COMPENSATION, INDEMNIFICATION, REIMBURSEMENT OR DAMAGES ON ACCOUNT OF ANY LOSS OF PROSPECTIVE PROFITS OR ANTICIPATED SALES OR ON ACCOUNT OF EXPENDITURES, INVESTMENTS, LEASES OR COMMITMENTS MADE IN CONNECTION WITH THE AGREEMENT OR THE ANTICIPATION OF EXTENDED PERFORMANCE THEREUNDER. NOTWITHSTANDING THE FOREGOING, CUSTOMER'S EXCLUSIVE REMEDY AGAINST OKM, AND OKM'S SOLE OBLIGATION, FOR ANY AND ALL CLAIMS, WHETHER FOR BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), OR OTHERWISE, SHALL BE LIMITED TO EITHER REPAIR OR REPLACEMENT OF THE NONCONFORMING GOODS OR REFUNDING THE AMOUNTS PAID BY CUSTOMER TO OKM DIRECTLY ATTRIBUTABLE TO NON-CONFORMING GOODS OR SERVICES. IN NO EVENT SHALL OKM HAVE ANY LIABILITY FOR DELAYS IN SHIPMENTS, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, REGARDLESS OF WHETHER SUCH CLAIM IS BROUGHT IN TORT, BREACH OF CONTRACT, BREACH OF WARRANTY OR OTHER THEORY OF LAW OR EQUITY.

10.4 SERVICE & SUPPORT

Support during and after the warranty period is provided in all countries where the product is officially distributed by OKM. Refer to 6.5 Maintenance and Repair by OKM on page 82 and contact your local dealer and/or the manufacturer OKM for further information.

OKM DETECTORS

HEADQUARTERS

OKM GmbH
Julius-Zinkeisen-Str. 7
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Germany

SUBSIDIARY

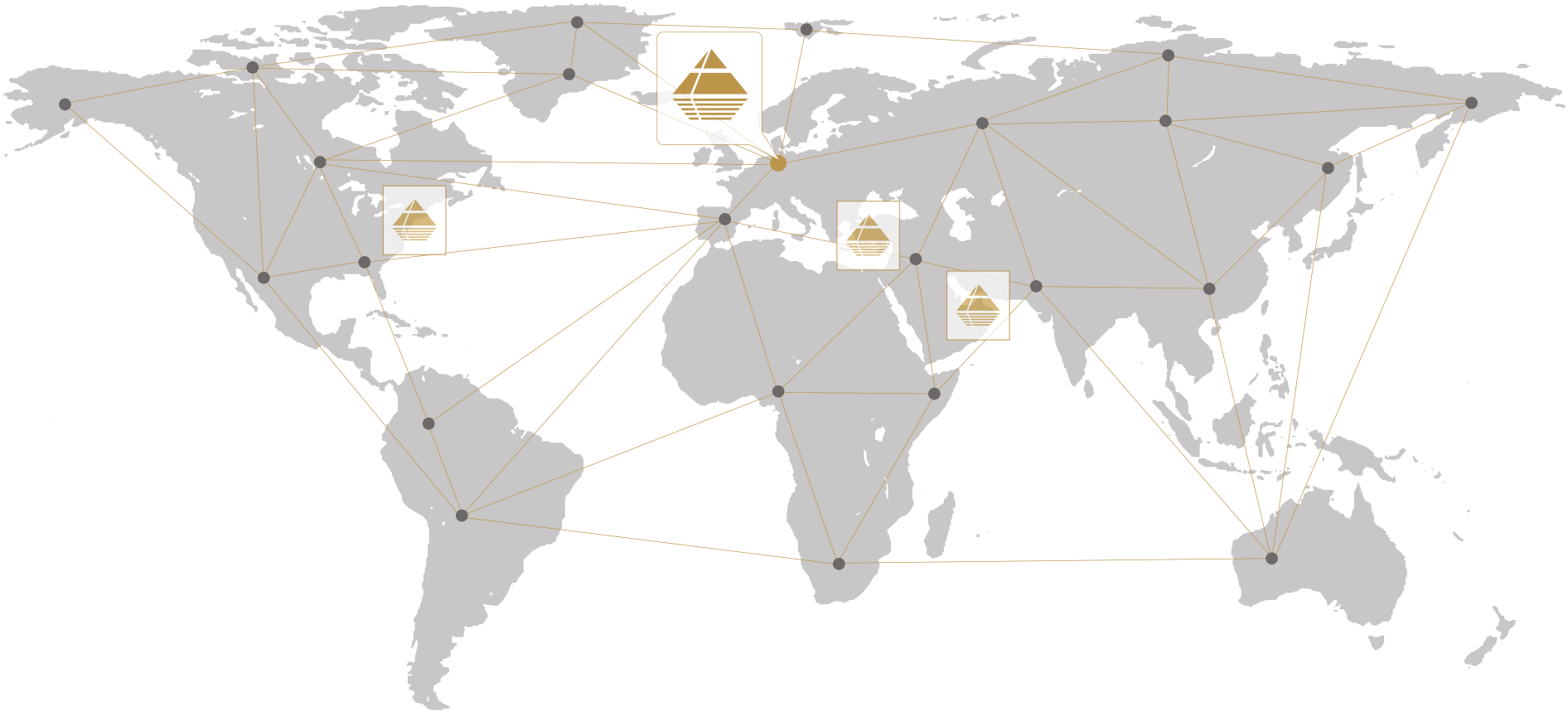
OKM Americas
Charlotte
USA

SUBSIDIARY

OKM Türkiye
Antalya
Türkiye

SUBSIDIARY

OKM Emirates FZE
SAIF Zone, Sharjah
UAE



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