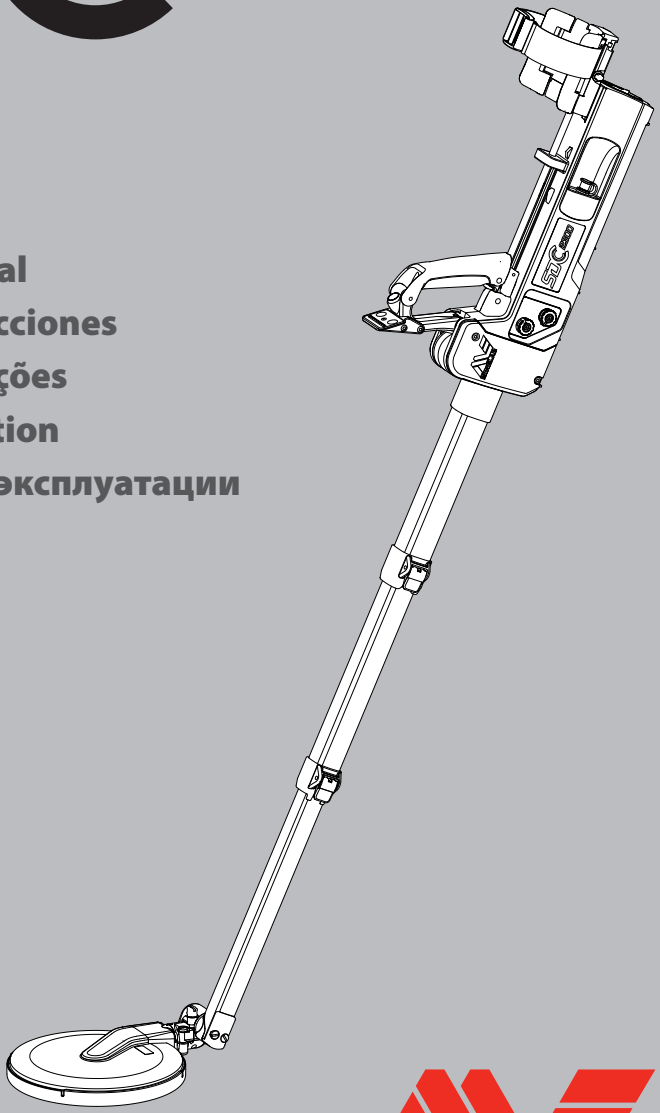
SDC 2300

Instruction Manual
Manual de instrucciones
Manual de instruções
Manuel d'instruction
Руководство по эксплуатации
دليل التعليمات



MPF

World's Best Metal Detection Technologies

MINELAB

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Minelab Electronics,
PO Box 35, Salisbury South
South Australia 5106

Part Number 4901-0172-4

Congratulations on purchasing your



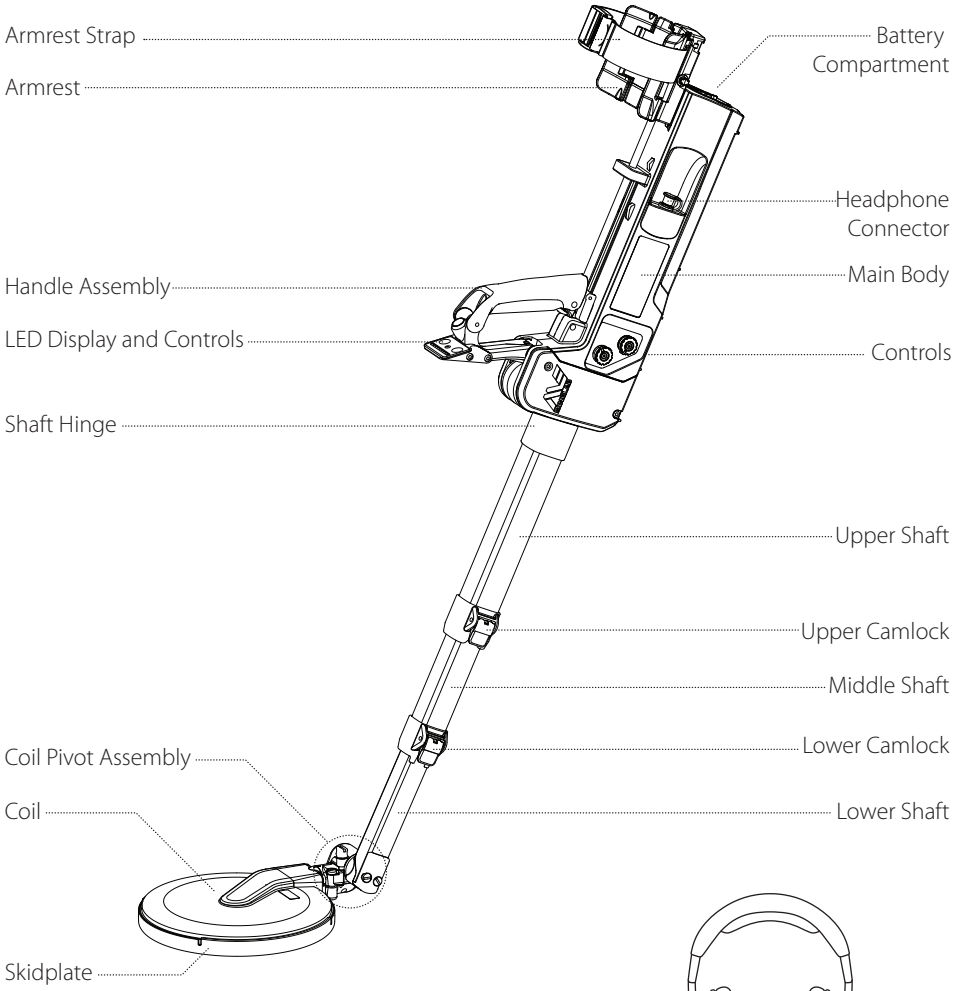
Metal Detector!

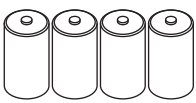
Gold detecting is a fascinating and rewarding activity enjoyed by people all over the world. By getting to know your SDC 2300 detector you can become one of the many who find gold on a regular basis.

The SDC 2300 is a compact waterproof gold detector incorporating Minelab's MPF (Multi Period Fast) pulse induction technology. With the assistance of this Instruction Manual, and the accompanying Quick Start Guide, you will quickly learn how to assemble and set up your detector for the best results.

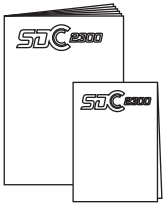
Minelab wishes you every success in your quest for gold!

List of Parts

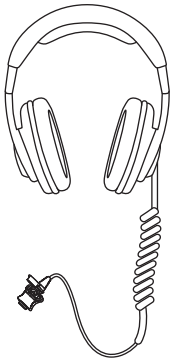




NiMH C-Cell Batteries
(Charger included)



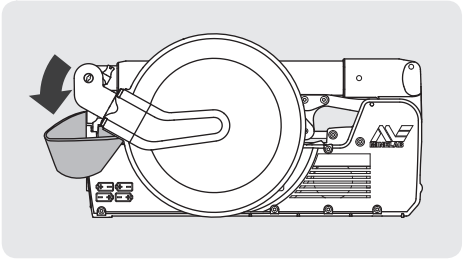
Instruction Manual
and Quick Start Guide



Headphones
(Not waterproof)

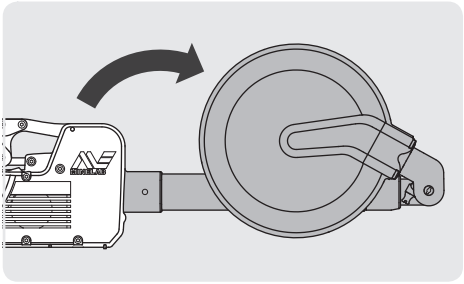
1. Release armrest strap

Loosen the armrest strap and slide off of the coil pivot to release the shaft assembly.



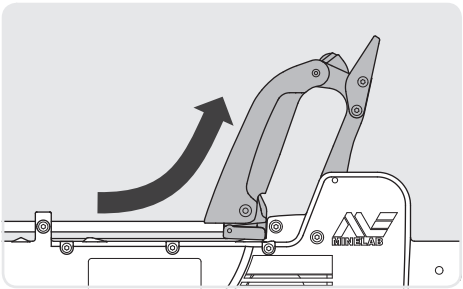
2. Fold out coil/shafts

Fold the coil/shaft assembly out until it clicks into place.



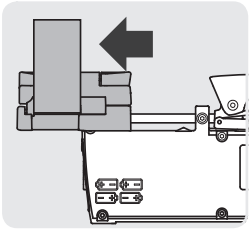
3. Slide up handle assembly

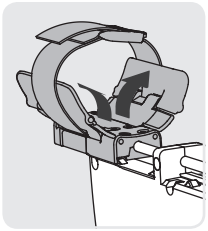
Slide the handle assembly forwards and upwards until it clicks into position. This will also lock the shafts.



4. Extend and open armrest

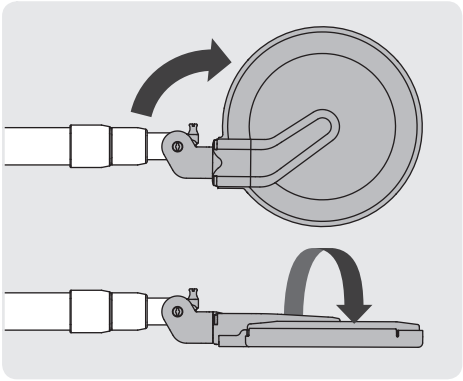
Slide the armrest backwards until it stops. Open the armrest wings outwards.





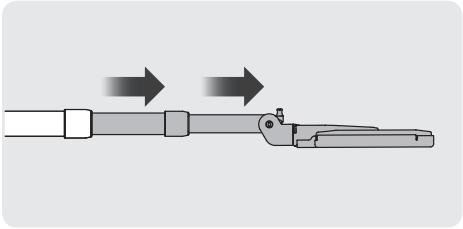
5. Rotate coil into position

Rotate the coil forwards 180° in line with the shafts. Turn the coil 90° so that it is horizontal.



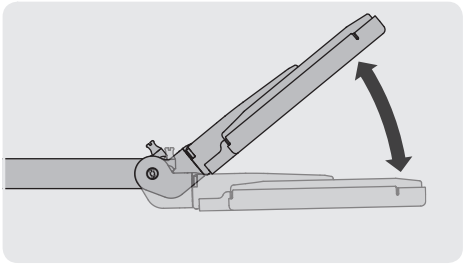
6. Extend shafts

Unlock the upper and lower camlocks and extend the middle and lower shafts to a comfortable detecting length. Lock the upper and lower camlocks.



7. Adjust coil angle

Adjust the angle of the coil so that it is parallel to the ground when the detector is held in the operational position.



Packing Up

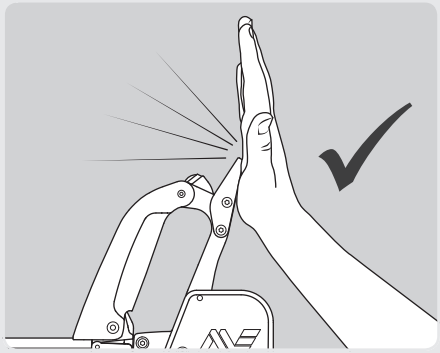
To pack up the detector and return it to its compact state, perform the following steps:

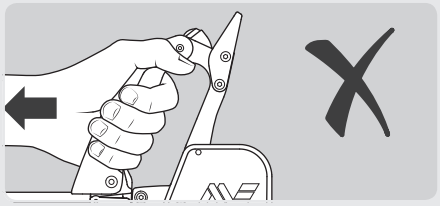
1. Retract the armrest wings and the armrest.
2. Hold the bottom of the detector with one hand, and use base of the palm of the other hand to firmly impact the top of the handle behind the LED display. This will collapse the handle assembly.

BE CAREFUL!

Keep your fingers clear of the handle and armrest area when collapsing the handle assembly.







3. Retract the shafts using the cam-locks and rotate the shaft and coil back into the compact position.

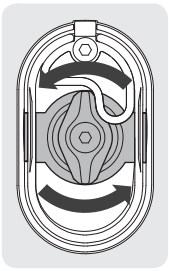
Inserting Batteries

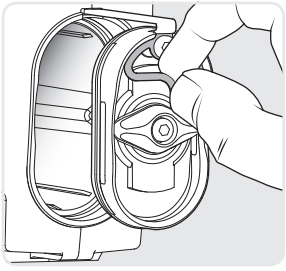
The SDC 2300 requires four C cell batteries for operation. Only use high quality alkaline or rechargeable batteries. Minelab recommends that only rechargeable batteries with a capacity of 4000 mAh or greater be used. Rechargeable batteries have specific charge/discharge maintenance requirements, which should be strictly followed to ensure maximum battery life.

Tips:

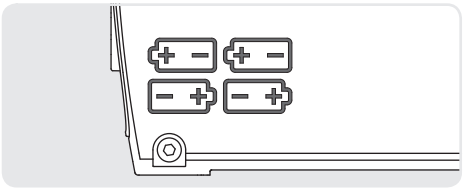
- *Always ensure that your rechargeable batteries are at full charge.*
- *Only use high quality batteries.*

The battery compartment is located at the rear of the detector. To open the compartment, twist the knob in a counter-clockwise direction, and then pull the door back as shown.

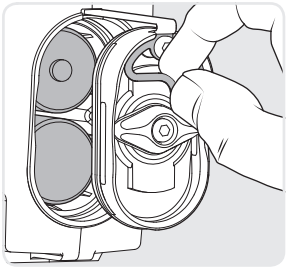




Insert the batteries. Refer to the battery orientation diagram on the side of the detector to ensure that the batteries are inserted correctly.



Close the battery door and twist the knob clockwise as shown.

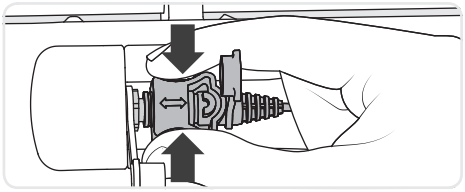


WARNING *The waterproof seal on the battery door must be free of contamination prior to submerging the detector. Always clean the seal and its mating surface and check for damage prior to underwater use otherwise serious damage can be caused to your detector.*

Connecting Headphones

The detector may be used with the built-in speaker or the headphones supplied.

To attach the headphones, remove the dust caps from the headphone plug and headphone socket. Hold the headphone by the rubber collar using thumb and index finger, the raised double arrow should be uppermost. Align the plug with the headphone socket and squeezing firmly, slide the collar onto the socket.

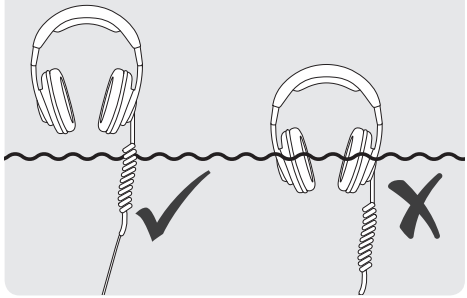


The detector's built-in speaker will be automatically muted when headphones are connected.

DO NOT submerge the headphones!

WARNING

The headphone earpieces are NOT waterproof. Only the headphone cable and connector is waterproof. If submerging the unit beyond wading depth, the headphones must be removed and the LED indicators used to indicate a detection.



Quick Start

The following steps are a good general procedure to get you detecting quickly.

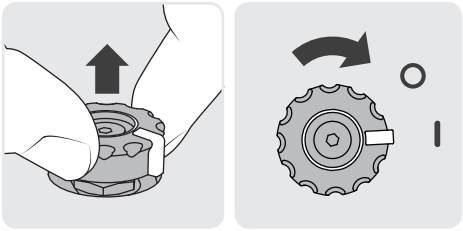
1. Ensure detector is set to Normal mode 2 (green).
2. Turn on *(see 'Turning the Detector On')*
3. Perform Noise Cancel (if required) *(page 8)*
4. Set Threshold (if required) *(page 8)*
5. Perform Fast Ground Balance *(page 9)*
6. Start detecting

NOTE: Settings may need to be further adjusted depending on individual ground conditions.

Turning the Detector On

Before you turn the detector on, hold the coil away from any metallic objects.

To turn on the detector, lift and rotate the power switch clockwise, then release.

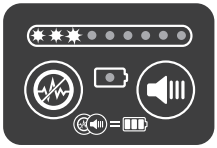


The SDC 2300 will emit a series of four or five rising tones and then the LEDs will illuminate.

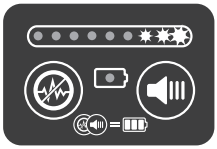
The detector is ready to use.

LED Display

The SDC 2300 is equipped with an LED display which provides a visual indication of target size and proximity. When detecting, the first LED is always illuminated. Small or deep targets may only cause the first two to three LEDs to illuminate. Very large or shallow targets may cause all LEDs to illuminate.

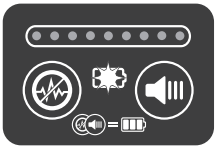


Weak target response
e.g. Small or deep targets



Strong target response
e.g. Large or shallow targets

There is also a single low battery alarm LED, which will flash when the batteries are nearly depleted.



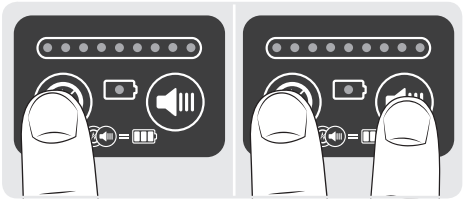
Low battery alarm

Battery Status

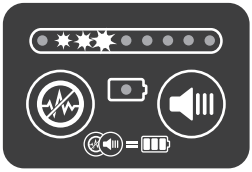
The battery status can be checked at anytime.

To check your battery level, follow the steps below:

1. Press and hold the Noise Cancel button.
2. Press and release the Threshold button. The Noise Cancel button can now be released.



3. An indication of battery charge will be displayed by the LEDs for approximately three seconds.



NOTE:

Fully charged rechargeable batteries will only indicate half charge:



Fully charged rechargeable 1.2V



Fresh Alkaline 1.5V

Noise Cancel

Minimizing electrical interference.

Noise Cancel is a function which reduces the effects of some types of electrical interference, such as power lines, or other nearby metal detectors. During Noise Cancel, the detector automatically searches for and selects the quietest operating channel.

If the detector is noisy when held stationary, use Noise Cancel to reduce interference.

To operate Noise Cancel, follow the steps below:

1. Hold the coil stationary and away from the ground.
2. Press and release the Noise Cancel button.
3. Wait for the Noise Cancel process to finish.
4. Commence detecting.

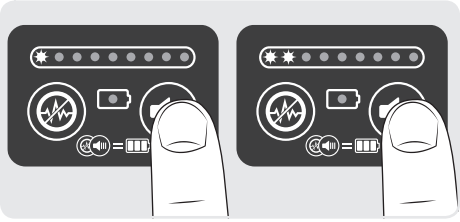
The Noise Cancel process will take approximately 50 seconds to complete. A series of beeps will be emitted during the process, followed by 4 single beeps at completion.

Threshold

Adjusting the background audio level.

Threshold is the constant audible background tone produced by the detector. When a target is detected the threshold changes in both volume and pitch. The Threshold level could be considered an audio reference point. Small targets or large deep targets may not produce a distinct target signal, but may cause only a small variation in the Threshold. Therefore it is important to set the Threshold so it can be heard. If the Threshold level is set too high or too low, these small variations may not be heard.

There are nine Threshold levels available on your SDC 2300. Each press of the Threshold button will increase the Threshold by one setting as indicated by the LEDs. If the Threshold is already at the maximum setting, then pressing the button will cycle back to the quietest setting.



Ground Balance

Compensating for ground mineralization.

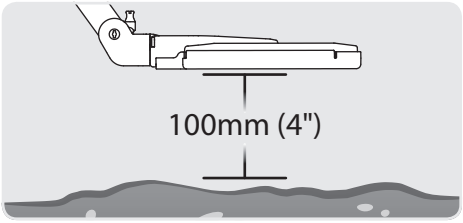
Most ground contains many different chemicals, minerals and salts. These extra materials are referred to as ground mineralization, which may produce erratic sounds known as 'ground noise'. Ground noise can make it more difficult for you to hear target signals; particularly faint target signals from small or deep targets.

The SDC 2300 utilizes Minelab's Automatic Ground Tracking (AGT) to measure the ground mineralization while searching, and any changes in mineralization are automatically compensated for.

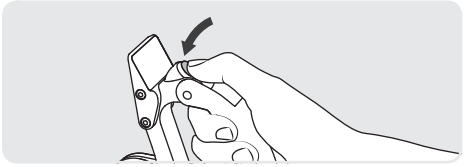
The SDC 2300 features a momentary Fast Ground Balance , which should be used to initially set the ground balance prior to searching.

To perform a Fast Ground Balance, follow the steps below:

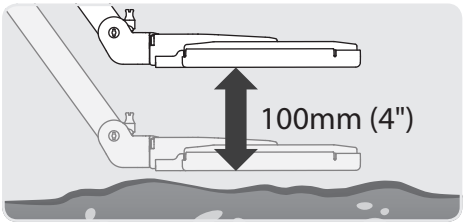
1. Find a clear area of ground without any targets and hold the coil parallel to the ground at a height of 100mm (4").



2. Press and hold the green Ground Balance button to activate the Fast Ground Balance.



3. Smoothly lower and raise the coil from 100mm (4") towards the ground, without touching the ground.



4. Continue to lower and raise the coil until the audio has stabilised and any ground noise has stopped. The Threshold tone should now be even.
5. Release the green Ground Balance button.

Tips:

- *If ground noise continues to be a problem after carrying out Ground Balance, you may need to reduce your Sensitivity.*
- *If detecting in areas of extremely variable mineralization, detecting with the contours rather than across the changes will often reduce ground noise.*
- *Do not continuously sweep over or Ground Balance over a faint target response because you may 'balance out' a target instead of detecting it. Ground Balance near the target, then sweep over the target to pinpoint its location.*

Detecting Mode (and Sensitivity)

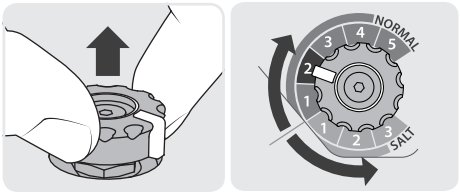
Optimizing performance for various conditions.

The detecting mode and sensitivity of the detector is set by the 8-position rotary switch on the side of the detector.

Normal mode *(orange 1-5)*: Ideal for a wide range of ground conditions. A good default mode to detect in the majority of areas.

Salt mode *(blue 1-3)*: Suitable for salt saturated mineralized soil conditions and is ideal for detecting on salt lakes and beaches.

Adjust the setting by lifting and rotating the control:



A higher sensitivity setting will allow the detector to detect smaller or deeper targets, however it may also increase the effects of interference and ground noise. Higher sensitivity settings are only recommended for mild soil conditions and areas of low interference.

In highly mineralized soils or high interference areas, a lower sensitivity setting can provide better performance by reducing false signals, allowing gold to be heard.

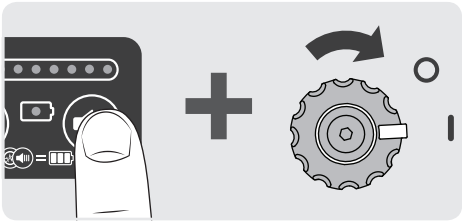
Minelab recommends starting the detector with normal mode 2 (green), and then adjusting based on local conditions and user preference.

Audio Pitch (Tone)

Adjusting the pitch of the audio.

There are two Audio Pitch settings available to suit your hearing preference. The detector can be configured to have either a Low Pitch setting or a High Pitch setting. The Low Pitch setting makes both the Threshold and detection tones have a lower pitched sound, and the High Pitch setting makes them have a higher pitched sound. The High Pitch setting is the default.

To change the Audio Pitch setting, press and hold the Threshold button whilst turning the detector on.



If Threshold button is not held down whilst the detector is turned on, then it will remember the previous setting.

Tip:

Using the 'highest stable' Sensitivity setting in each Detecting mode will achieve the best performance. Start detecting and turn up the Sensitivity control until false signals begin to occur. Then reduce the Sensitivity level by one number.

Where to Find Gold

Many nugget-bearing areas are the result of broken-down gold reefs containing quartz and ironstone. Experienced prospectors learn to 'read the ground' and look for tell-tale signs indicating potential gold-bearing fields. If you are new to prospecting, visit known gold fields, ideally ones that produce gold nuggets 0.1 grams or larger. Pay attention to the soil colour, rock types and vegetation, as this knowledge may help you to find gold elsewhere. Be aware that gold dust will not be detected by your SDC 2300.

A typical problem encountered while using some metal detectors in the goldfields is the presence of heavy concentrations of ironstone causing many false signals. The SDC 2300 is designed to perform well in these conditions, ignoring most ironstone and allowing gold to be discovered.

The SDC 2300 is an ideal detector for patch hunting. The ground can be rapidly scanned until a first piece of gold is found, and then a slower systematic search of the area can be made to see if other gold nuggets are located nearby. This can be achieved by detecting the area very slowly, with significant coil overlap of each sweep and by approaching the location from three different directions.

Identifying Target Signals

- Metallic targets (including gold) will usually give a consistent response when the coil is swept from different directions.
- Very sudden changes in mineralization may produce a signal (ground noise) from the detector. Usually this signal is very broad and uneven when the coil is swept from different directions and may only give a signal from one direction.
- Large deep gold can give a broader target response than smaller shallower gold.
- Charcoal can sound loud and like a metallic target when close to the surface. The target response from charcoal is often broader and becomes patchier as the ground is dug.
- It is possible that gold can be completely encased in certain rocks.

Audio discrimination

When prospecting the golden rule is to dig all solid signals. However, the type of target under the coil and buried beneath the ground can be distinguished by the audio response the detector sounds.

The SDC 2300 gold detector audio response provides discrimination in the form of pitch and tone when the coil passes over ferrous or non-ferrous targets, similarly with amplitude and duration for shallow and deep targets.

For example, the audio response for small gold will be a low-pitched tone followed by a high-pitched tone. A ferrous signal such as a bottle cap will produce a high-pitched tone followed by a low-pitched one, enabling the user to discriminate the ferrous target.

A louder, shorter sound will indicate a shallow target while a quieter, broader sound will indicate the presence of a deep, large target. A target that sounds off multiple times each swing will invariably be a near-surface or surface target.

Maximizing Gold Recovery

These hints and techniques will help you find more gold with your SDC 2300.

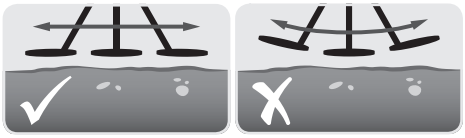
Keep the coil moving

The SDC 2300 is a 'motion' detector. This means the coil must be moving over the target (or the target moving over the coil), to detect it.

Sweep close and parallel to the ground

The SDC 2300 detector will perform at its best when the coil is kept close and parallel to the ground at all times. Lightly skidding the coil across the ground is also acceptable. This will increase the detection depth and target response to small objects.

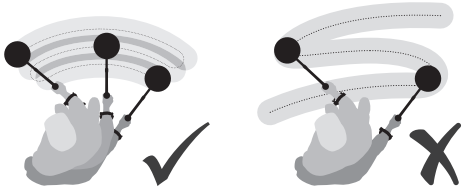
Do not raise the coil at the ends of each sweep as this will reduce the detection depth and may cause false signals.



Overlap your sweep

Overlapping the previous sweep ensures thorough ground coverage to maximize your gold recovery.

Remember that covering a small section of ground thoroughly will be more productive than randomly searching a larger area.



Sweep speed

SLOW DOWN! Do not rush, take your time. Practise sweeping the coil over the ground in a side-to-side motion, while walking forward slowly at the end of each sweep.

A recommended average sweep speed is four seconds from left to right to left. Sweeping the coil very fast will reduce detection depth.

Keep metal away from the coil

Make sure you keep other metal well away from the coil while detecting, e.g. steel toe boots, digging tools, and jewelry, otherwise false signals may occur.

Optimize the Sensitivity setting

Having the sensitivity too high will make the detector noisy and will miss gold. Use the highest *stable* Sensitivity setting to achieve maximum depth.

Dig all target signals

Digging all target signals will ensure that no gold is missed.

Listen to your detector

Listen very carefully. This is more important than looking.

Stay Positive

Have a positive mind set, and imagine a nugget at every sweep!!

Maintain the condition of your detector and accessories by following these recommendations.

- **Prior to submersing in water**, ensure the battery seal (O-ring), and the mating face are undamaged and kept clean.

  To achieve this:
  - Remove the battery seal with a soft tool
  - Wipe over the battery seal using a clean, moistened cloth. Damaged seals must be replaced prior to submersing your detector
  - Gently brush or wipe over the mating face (avoiding damage to the surfaces) to remove any contamination
  - Visually inspect the areas to ensure all sand, grit or other contaminants have been removed
  - Refit the battery seal ensuring that it is seated correctly and *is not twisted*
  - Fit the batteries into the detector
  - Ensure the battery door is fully closed

- The headphones supplied are not entirely waterproof. The headphone cable and connector may be submersed in water, however the earpieces must not.

- Be careful not to place excessive tension on the headphone cables.

- O-ring lubricant or grease is not required on the waterproof seal.

- Use of petroleum based O-ring grease is likely to damage the waterproof seal.

- Never allow the detector to come into contact with gasoline or other petroleum-based liquids.

- Do not leave the detector in excessive cold or heat longer than necessary. Covering it when not in use will help protect it. Avoid leaving it in a closed car trunk or in a car exposed to sunlight.

- Avoid leaving sand and grit in the shafts, hinges or cam locks.

- Do not use solvents to clean the detector. Use a damp cloth with mild soap detergent. Wash connectors with distilled water.

- Hose the detector with clean water after use, especially after using in water.

- Attempting to disassemble or repair the detector will void your warranty.

- Take precautions when transporting or storing the detector. Although the detector is constructed from the highest quality materials and has undergone rigorous durability tests, serious damage could occur if not treated with due care.

- Replace the coil skidplate when it is worn through, otherwise the coil could become damaged.

- Do not leave batteries in the SDC 2300 when the detector is not in use for extended periods. Damage caused by leaking batteries could be severe and would void the warranty.

Detector Technical Specifications

Coil	8" Round Monoloop
Audio Output	Built-in speaker Koss 100 Ohm headphones *(standard accessory - supplied)* Koss waterproof headphones *(optional accessory - not supplied)*
Display	9 LEDs indicate detection, battery status and Threshold level 1 Low battery warning LED
Length	Extended: 1500mm (59.1") Collapsed: 400mm (15.7")
Weight *(Excluding Batteries and Headphones)*	2.3kg (5.1lbs)
Operating Temperature Range	0°C to 50°C (32°F to 122°F)
Storage Temperature Range	–33°C to 70°C (–27°F to 158°F)
Batteries	C-Cell 4 x 1.2V NiMH (supplied), 1.5V Alkaline, 1.2V Ni-Cad (Charger Included)
Detecting Mode	Normal Mode (1-5 Sensitivity) Salt Mode (1-3 Sensitivity)
Noise Cancel	Automatic scanning
Ground Balance	Automatic Ground Tracking (AGT) Fast Ground Balance
Threshold	9 audio levels
Audio Pitch (Tone)	Low High
Transmission	Pulse Induction
Technology	Multi Period Fast (MPF)
Optional Accessories	Waterproof Headphones, Carry Bag

COMPLIANCE

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES

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.

OPERATING FREQUENCY

The detector is configured to operate at a fundamental operating frequency of 9.3 kHz.

DISCLAIMER

The Minelab metal detector discussed in this instruction manual has been expressly designed and manufactured as a quality metal detector and is recommended for gold detecting in non-hazardous environments. This metal detector has not been designed for use as a mine detector or as a live munitions detection tool.

PLEASE NOTE

Since there may be a variety of options available for this detector, equipment may vary according to the Model or items ordered with your detector. Certain descriptions and illustrations may also differ (in this manual) from the exact Model that you purchased. In addition, Minelab reserves the right to respond to ongoing technical progress by introducing changes in design, equipment and technical features at any time.

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