Golden Mask
4Wcl

User Guide

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Golden Mask 4Wcl User Guide - ver. 1.0 (last updated: January 2024)

Detector Overview

Golden Mask 4WCL (W – wireless , CL – coil) is an evolution of the popular Golden Mask 4Pro model. The main difference is the wireless connection between the search coil and the electronic unit.

The absence of a cable provides more stable operation of the detector, better depth and automatic filtering of Electromagnetic interference (EMI) by the active filter in the wireless search coil.

The Golden Mask 4WCL has a high recovery speed and very good depth at the same time!

With this detector you will find deeply buried objects even in heavily iron-contaminated areas, where slow detectors from other manufacturers miss lots of targets.

Golden Mask 4WCL comes with a 11'' search coil at a working frequency of 15kHz.

Search Coils

- 9'' with working frequency of 24kHz (coming soon)
- 11'' with working frequency of 15kHz
- 12x15'' with working frequency of 7.77kHz (coming soon)

Using the Detector

Assembly

The detector comes to you with detached search coil and separated into two parts shaft to reduce the transport charges.

First, attach the two parts of the shaft. The lower part goes inside the upper part tube and is secured with the locking screw, just as the other two parts. Nothing special here.

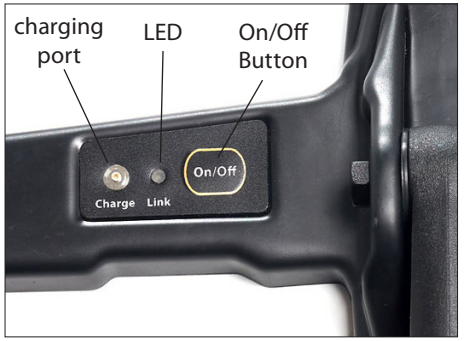
While using the detector, it is a good practice to tighten the locking screws periodically to ensure stability and long life of the shaft.

Switching On The Detector

The detector is switched on via the On/Off VOLUME knob. Turn it clockwise to start the detector and adjust the sound volume to the desired level.

Switching On The Search Coil

The search coil is switched by pressing and holding for ~3 seconds the On/Off button on the top of the coil. Alternatively, you can switch on the coil using a magnet – you should place the little magnet (attached on the shaft with a Velcro strap) on the red spot at the top-left side of the search coil. The LED on the coil will start to blink with blue light.



Pairing The Coil With The Detector

When you switch On the search coil and it is not paired with the detector (new coil), the LED will blink blue. Now switch the detector ON. If the coil was not previously paired with the detector, the LED will still blink Blue. To pair the coil with the detector electronics, push up the COIL PAIRING knob for 1 second and release it, it will return in its initial position. After a successful pairing procedure, the LED will stop blinking and will emit continuos Blue light. The LED on the detector has the same behaviour.

The Detector Controls

Setting the detector is fairly easy and is done via five potentiometers and two switches. Below you will find info about every knob/setting and how it affects the detector behaviour.

DISC. LEVEL

Controls the discrimination level. The default value is 3 (marked in Red). At lower settings the detector detects deeper, but some rusty iron targets could be indicated as nonferrous. In opposite, if you increase the Disc. Level value, the detector will react only on targets, that are purely nonferrous, but the depth of detection decreases and you will loose some nonferrous targets, mainly tiny ones and ones that are made of low-conducting metal. Unfortunately Gold is a low-conductive metal and if you increase the discrimination level, you could loose some gold targets.

AUDIO FREQ.

Controls the audio output frequency. Does not affect the performance of the detector, it's a mater of personal preference.

POWER LEVEL

Determines the power of the electromagnetic field of the detector search coil and thus affects the depth of detection. At higher values, the detector detects deeper, but with some limitation. There is a threshold that cannot be surpassed, e.g. you cannot set the detector above the threshold, because it will self-trigger and emit a continuous sound that will mask the sound from targets. The working range is marked in yellow, but better find the threshold and set the detector just below it – with such adjustment, the detector will have maximum depth, while maintain good stability.

GROUND BALANCE

Sets the ground exclusion balance, known in metal detecting as Ground Balance. This is an adaptation of the detector to the current soil conditions. At full left (HR – Hot Rocks), the detector act as a fixed ground balance machine and allows working on very mineralized soils and the so-called "hot rocks" – these are stones with high mineralization, that are often detected as nonferrous metals at usual setting of the ground balance.

See the next chapter for detailed explanation on how to set the ground balance.

On/Off VOLUME

This knob switches the detector on and off and sets the sound volume level.

COIL PAIRING

This is a switch of type “push up” that is used to pair the coil and the detector electronics. Just push the switch shaft up to pair the detector of the search coil. Once paired, the connection is remembered and you don’t have to do it the next time you use the same search coil on the same detector.

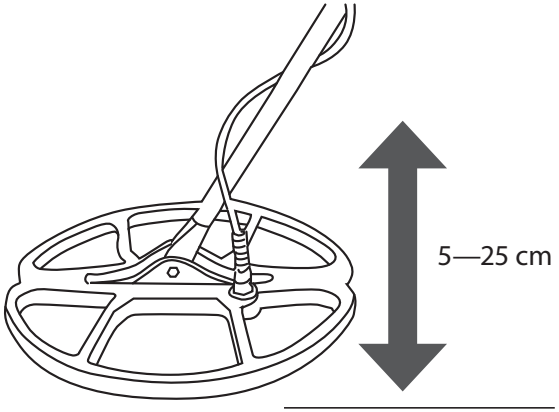
AUDIO

This 2-way switch toggles between mono-tone and multi-tone audio mode. At the first mode, the detector emits a sound for nonferrous targets only, while ferrous ones are ignored or indicated with a cracking sound. In this mode you could achieve better depth, but have to listen to the sound very carefully and gain some experience before be able to securely identify targets. In multi-ton model, the detector emits a low sound for the ferrous targets and a high frequency signal for nonferrous targets.

Ground Balance

The Golden Mask 4Wcl has manual ground balance only. A proper manual ground balance could dramatically increase the machine performance and depth of detection compared with unbalanced machine.

First, set the detector to multi-tone mode. Now find a place without any metal objects on it and start to “pump” the coil up and down over the ground surface. Moving it 20 cm up and down is enough, but without touching the ground. If the machine is not balanced, you will hear a sound while the coil is going up or down. While “pumping”, turn the GROUND BALANCE knob until the sound disappears or is slightly audible but equal with the movement of the coil in both



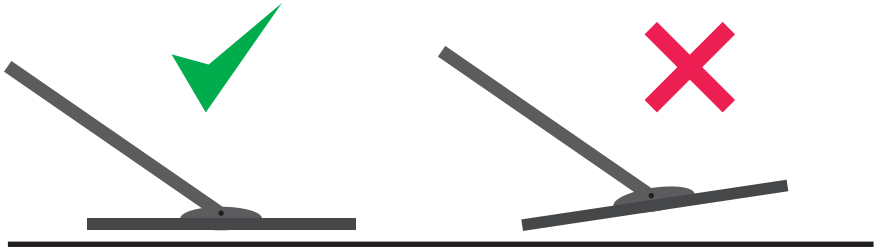
directions. If the sound is present while the coil goes up, you should turn the know clockwise and vice versa. When the sound from the coil movement disappears, the detector is ground-balanced. You can start your search.

Have in mind that the ground mineralization in not uniform even on small surface spots, so when you go to another area or start experiencing instability or false signals, you shall perform a new ground balance.

Searching For Metal Objects

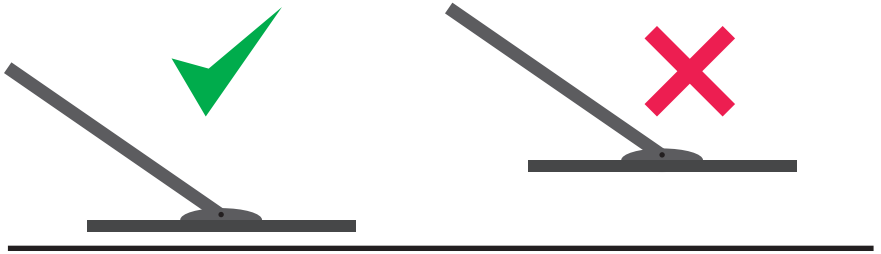
The detector is of type “MOTION”. This means it could indicate a target only while the coil is moving. The search process with the detector is performed by swiping the coil left-right just over the ground surface and slowly walking forward so you made overlapping snake-type trajectory of the coil, ensuring you totally cover the space you walked over. This ensures you will not left undiscovered targets behind you.

The coil should be kept parallel to the ground surface during the search. This position ensures best depth and stability of operation.



The movement of the coil must not be too slow, nor too fast. You will find the appropriate speed with time. Slower is usually more efficient than faster swiping.

If you hold the coil too far from the ground, you will loose depth, so keep it as close to the ground as possible.

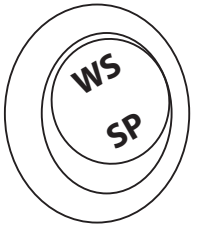


While swiping the coil, if a metal object is present under the coil, the detector will emit a sound.

Using Wireless Headphones (Optional)

Your Golden Mask 4Wcl could be ordered with optional low-latency wireless headphones. The wireless transmitter is integrated in the battery compartment of the detector. At the backside of the battery compartment you will find a small switch that routes the sound signal to the speaker or to the wireless transmitter.

To use the wireless headphones, you just switch to WS position and the sound goes to the wireless transmitter. Now you have to switch On the headphones by pressing and holding for 3 seconds the On/Off button. When the headphones are ready to work, a blue light will start to blink.



The WS headphones are operated by the three buttons on the right earphone: on/off, volume+ and volume-. The three other buttons on the left earphone are not used.

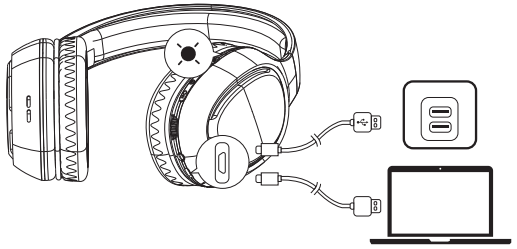
The WS headphones battery provides power for ~25 hours of work at 80% Volume.

Pairing WS Headphones With The Detector

The newest WS headphones are paired automatically with the detector transmitter when the headphones and the detector are switched-on and you place the headphones close to the transmitter (the battery box) - the so-called “proximity pairing”.

Charging The Headphones Battery

The wireless headphones are powered by an internal irreplaceable battery. The headphones are charged through an USB cable (supplied within the package) by connecting it to a wall socket USB charger, to an USB adapter or by connecting it to the USB port of your computer. A cellphone charger could be used as well. The charging process is indicated by a blue light on the headphones. When the light turns off, the charging is complete and you can disconnect the USB cable and start using the headphones.



Flashing Red Light Twice Every 30 Seconds	Low battery
Steady Red Light	Being charged
Light Off	Fully charged

Using Wired Headphones

The detector has a standard 6.35 mm | 1/4” headphones jack to plug-in wired headphones. The sound module of the detector is engineered to use a large gamut of contemporary **STEREO headphones with impedance of 50Ω or higher**. We recommend using metal detecting dedicated headphones, they are preferred because of their built quality, they are usually of high impedance, so will work properly on your Golden Mask.

WARNING!
Never use headphones with MONO jack! Never use non-standard headphones, for example military equipment - this could damage the sound module of the detector.
Using headphones with 3.5 mm jack + adapter is not recommended - most adapters are junk and may cause malfunctions on your detector. Some adapters may cause short circuit on the sound output module and damage the detector sound amplifier.

Charging The Detector Battery

The electronic unit uses a 11.1V LiPo (type of Li-Ion) battery of 1500mAh, providing about 25 hours of continuous operation. The electronic unit is charged using an 11.1V charger included in the detector kit.

When you receive your detector, the battery is charged at around 20% of it’s normal capacity. Before using the detector, you should first charge the battery as described below.

The Golden Mask 4Wcl is delivered with a Li-Ion battery. The battery provides enough power for a minimum of 25 hours continuous work. Have in mind that at low temperatures (below 0°C) the actual capacity of the battery is lowered and the working time will be reduced. When the temperature is rising, the battery returns to its normal capacity.

You should charge your detector after you have using it for more than 2-3 hours to be sure you will have enough power for your next outing. The Li-Ion battery do not have the so-called “memory effect”, so you can recharge it at any time and any discharge level.

You should charge the battery when the battery LED on the top-right corner of the front panel start to flash. When the LED start to flash, you have remaining power for around 30 minutes of operation.

To charge the detector battery, connect the dedicated Smart charger jack to the charging port of the detector on the backside of the battery box and plug the charger to the wall socket. A red light will be lit on the charger. After the charging is complete, the light will turn to green colour. You can now disconnect the charger and start detecting.

Do not turn on the detector until the charging process is finished and the charger is disconnected! Otherwise the detector electronics may be damaged!

WARNING!
Use ONLY the supplied charger to charge your detector! Using a incompatible charger is dangerous for the battery and may cause fire!

Charging The Search Coil

The search coils of the Golden Mask 4WCL are powered by an autonomous LiPo battery of 1700mAh, which provides 8-12 hours of operation depending on the operating mode and ambient temperature (temperatures from -5 to +10 degrees Celsius reduce the operating time to 8 hours).

To ensure a long battery life, it is charged with a small current, the charge takes about 6 hours for a fully discharged battery. LiPo batteries (lithium-polymer) do not suffer from the "memory effect", so you can recharge them at any time, without first waiting for them to be fully discharged.

The microprocessor in the wireless search coil takes care of the battery status and its storage. If the search coil is not used for a long time, the microprocessor switches the battery to storage mode.

The search coil is charged via a 5V USB charger and a magnetic cable included in the detector kit. You can use a Power Bank or a car USB charger to charge.

Before charging, it is necessary to clean the magnetic contacts with a soft cloth, without using solvents.

Light indication of the search coil:

• Charging indication of the search coil - constantly lit red LED, the diode goes out after charging is complete.

• Indication of low battery voltage - flashing red LED

• Indication of the search coil being turned on - flashing blue LED

• Indication of the search coil being turned on and successfully connected to the electronic unit - constantly lit blue LED.

Our advice is to always charge your wireless search coil before going out!

Taking Care Of The Batteries

To keep the battery in good health, you should follow these simple rules:

• Do not charge the battery at low temperatures (below 5° C). After using the detector in cold weather, first keep it in a room for 3-6 hours to temperate and then charge it.

• Store the detector/battery at temperatures between 5 °C and 25 °C.

• Do not leave the detector battery unused for extended periods of time. If the detector has been unused for 6 months, check the charge status and charge it if needed. Charge or discharge the battery to approximately 50% of capacity before long term storage.

• Charge the battery to approximately 50% of capacity at least once every six months.

• Carefully monitor the battery that is approaching the end of its estimated life. The typical estimated life of a Li-Ion battery is about two to three years or 300 to 500 charge cycles.

• The battery is self-discharging during storage. Higher temperatures (above 20 °C or 68 °F) reduce the battery storage life.

Li-Ion Battery Safety Rules

• Do not disassemble, crush, or puncture the battery.

• Do not short the external contacts on a battery.

• Do not dispose of a battery in fire or water.

• Do not expose a battery to temperatures above 60 °C (140 °F).

• Avoid exposing the battery to excessive shock or vibration.

• Do not use a damaged battery.

• If your detector is stored or unused for an extended period, be sure to follow the storage instructions in this manual. If you do not strictly follow the instructions, and the battery has no charge remaining when you check it, consider it to be damaged. Do not attempt to recharge it or to use it. Contact your dealer for instructions about how to replace the battery.

• Consider replacing the battery with a new one if you note the battery run time drops below 70% of the original run time at normal temperature or the battery charge time increases significantly.

• In case of eye contact with fluid leaking from battery, do not rub eyes. Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the fluid remains. Seek medical attention.

• Always check all applicable local, national, and international regulations before transporting a Lithium-Ion battery.

• Transporting an end-of-life, damaged, or recalled battery may, in certain cases, be specifically limited or prohibited.

• Lithium-Ion batteries are subject to disposal and recycling regulations that vary by country and region. Always check and follow your applicable regulations before disposing of any battery. Contact Rechargeable Battery Recycling Corporation (www.rbrc.org) for USA and Canada, or your local battery recycling organization.

Some Advices

Do not try to test the detector at home - in every house or even far from a house there are always too many electromagnetic interference (EMI) fields that will disturb the detector and you may think something's wrong.

Try to swipe the coil near the ground, but without touching it. Do not move it too fast. With practice, you will find the appropriate speed.

Respect the private property. Do not search in private property without permission - this could lead to serious legal, financial or other type of punishment.

Respect the law in your country about the protection of historical heritage and archeological sites. In all countries in Europe it is strictly prohibited to do metal detecting on or nearby archeological sites.

Good Luck!

Golden Mask 4Wcl

TECHNICAL SPECIFICATIONS	
Operating Principle	VLF
Frequency	7.77, 15 or 24 kHz, coil-determined
Wireless headphones 2.4gHz (optional)	Real time audio (Low Latency 12ms)
Audio tones	Mono-tone, Multi-tone
Audio output	6.3mm wired Headphones > 32 ohm
Search Coils	9" 24kHz, 11" 15kHz, 12.5x15" 7.77kHz
Weight	1.4 kg with 11" search coil
Shaft length	Adjustable
Battery (main)	Li-ION 3500 mAh
Battery (search coil)	Li-ION 1700 mAh
Power Autonomy	8-12 Hours (temperature depending)
Warranty	5 Year Warranty of electronics 2 Year Warranty of battery and coil(s)
Charger (detector)	Golden Mask Smart charger (EU plug)
Charger (coil)	USB charger (EU plug)
Operating Temperature Range	-10°C to +40°C (+14°F to +104°F)