GOLDEN MASK
DEEP HUNTER Pro 3

Instruction manual

Golden Mask Deep Hunter Pro3 is a professional treasure and relic hunting metal detector designed primarily to detect deeply buried metal objects and discriminate between ferrous and non-ferrous metals.

Golden Mask Deep Hunter Pro3 is an advanced pulse induction metal detector, with newly developed full range **"flash automatic ground exclusion balance", "trash reject control"** and discriminate between ferrous and non-ferrous metals. Its powerful performance is based on the very high quality state-of-the-art sophisticated electronics.

Golden Mask Deep Hunter Pro3 can significantly reduce the negative effects of power line and other electrical interference. This detector offers remarkable stability, sensitivity and accuracy that is achieved with the use of very simple and intuitive settings.

Pulse induction is based on the processing of short and intensive magnetic pulses which are emitted by means of a search coil. Those magnetic pulses produce electrical eddy currents in conducting metallic objects. Eddy currents will be stored in a metallic object around of the search coil but will quickly die away after the magnetic pulse emitted by the search coil has ended. The eddy currents and their time delay are read by the receiving phase by the search coil which now acts as a receiving coil. The received signal is amplified to drive an audio response via built-in loudspeaker or headphones when a metallic object is within the field of the search coil.

Eddy currents produced in a metal object by means of the high intensity pulsed primary field will die away at different rates depending on the conductivity of the metallic object encountered.

1.Golden Mask Deep Hunter Pro3 Set

1.1 Electronics Unit

It has a built-in 12.0V/2600 (3700) mAh NiMH battery, providing up to 8 (12) hours continuous use per battery charge. The electronics unit is housed in a protective leather case with an around-the-neck carrying strap. Never remove the electronics unit from the leather case as the unit can be damaged and the warranty will be void.

1.2 Search Coils

The detector is delivered with a variety of coils as desired by the customer. The use of self-made or other brands of coils will damage the Electronics Unit and will void the warranty. The main search coils of the **Golden Mask Deep Hunter Pro3** is a square frame made from PVC pipes, unions and elbows that form the coil support frame. The antenna is a special cable-like loop that is attached to the support frame with Velcro straps. Searching with this type of antenna is a two person effort. For individual searches (without an assistant), round coils are attached to the handle with a built-in arm rest. Round coils are suitable for areas where the movement of the frame coil is difficult or impossible, as well as in residential areas (walls, floors and ceilings), and on steeply sloped terrain.

1.3 Golden Mask Deep Hunter Pro3 smart battery charger

1.4 This Instruction Manual

2.Operating Principle - high-frequency pulse induction (advanced version) with full range flash automatic ground balance and multichannel signal processing to identify between ferrous and non-ferrous metals.

3.Settings - Golden Mask Deep Hunter Pro3 has extremely simple and intuitive settings, that include 4 knobs (of these: 2 with switching function - one for switching-on/off the unit and 1 for the special **“Silent”** mode), 2 buttons, 1 switch and 1 special indicator.

“VOLUME ON/Off” - knob to switch “ON/Off” the detector and adjusting the level of sound.

“SENSITIVITY” - knob to adjust the sensitivity of the detector;

“CRACKLE On/Off”- knob for adjusting the “ticking” frequency in absence of metal within the area of the search antenna; In position **“On”** the detector is in its core search mode. This is strictly individual adjustment and relates exclusively to the individual auditory characteristics of the operator. It is best to set a low “ticking” rate in the absence of metals near the coil. It does not affect the performance of the detector and is designed solely to provide a better detection of weak signals.

When **CRACKLE On/Off”** is in position **“Off”** the detector is switched to **“Silent”** mode, with this mode the detector does not emit a “ticking” sound during searches. The presence of a metal

object in the area of the coil is indicated by a low pitch tone (for ferrous metals) or high pitch tone (non-ferrous metals). In this mode, the detector's sensitivity is lower, but it is suitable for work in conditions of heterogeneous and/or highly mineralized soil, including the presence of ceramic residues and/or small metal objects that are not desired for detection.

The **“TRASH”** knob is for rejecting undesirable small pieces of metal and noise reduction in extremely mineralized soils. A higher value rejects more objects.

The **“RETUNE”** button is for quick readjustment and stabilization of the detector by removing interferences encountered during the search process. **“BOOST”** is for amplification of the received signal: in position **“ON”** it gives about 20% extra depth of detection **without use of additional battery power**.

After turning the switch **“BOOST”** to **“ON”** position, **"RETUNE"** must be pressed.

"SIGNAL" is a precision high quality analog meter indicating the strength of the received signal and the level of charge of the built-in battery; there are 3 embedded LEDs for indicating the type of the metal and the condition of the battery: "Fe", "n-Fe" - LED indication of the type of metal - green for ferrous metals and red for non-ferrous metals;

"Battery!" is a LED for indicating less than 10% residual charge of the built-in battery, indicating a necessary recharge (see **#11**);

"Battery Check" - button to check the level of battery charge. This button can be used at any time when the detector is switched “ON”. When the arrow is in the red sector, the battery should be recharged!

4.Ground Balance.

The **Golden Mask Deep Hunter Pro3** provides full range automatic ground balance based on a proprietary **"Flash Auto Ground Balance"** system that is unique to this detector. It does not need any settings and continuously rejects the signals generated by changing soil conditions encountered while searching.

In extremely high mineralized soils the noises can be reduced additionally by the **"TRASH"** control knob or by reducing the **"SENSITIVITY"** of the detector (decrease the value) and/or switch **"Off"** the **"BOOST"** function.

5.Search for metal objects with frame search coil.

The Golden Mask Deep Hunter Pro3 is designed to be used with large "frame" type search coils. This is the most effective way to search for deeply buried metal objects.

The search coil is moved slowly at a **constant height (15 cm or more)** above the ground. Coils of type "frame" are delivered in the form of "coil-cable loop" in length corresponding to the respective size of the supporting frame and a set of PVC pipes and fittings for assembling the supporting structure of the frame. The "coil-cable loop" is composed of series-connected conductors in a multi-conductor special cable which form a send-receive coil. The "coil-cable loop" is mounted onto a frame of PVC pipes, unions and elbows attached to the PVC frame using the included "Velcro" cable straps. The connecting cable is plugged into the connector labeled **"Coil"**, which is mounted on the right edge of the front panel of the electronics unit. The connector ring must be tightened.

The search with a "frame" requires an assistant who controls the level horizontal movement of the frame, using the included belts. With another belt, the operator determines the height and direction of movement and controls the detector.

Another way for individual work with a “frame” type search coils is for the operator to stand/walk inside the frame holding both belts while controlling the detector.

WARNING!
The use of this method, and/or any “entry” of the operator or another assistant inside the “frame” of the Golden Mask Deep Hunter Pro3 detector while in working mode can suffer adverse effects caused by the very strong electromagnetic field that can lead to serious health problems and/or injuries!

If you do not have an assistant, “dragging” of the search coil on a non-metallic sled (PVC, for example) is recommended. The sled must provide a constant height **(about 15 cm or more)** of the frame from the ground surface. The search should always begin with a brief pressing of the **“RETUNE”** button (the same is recommended to be carried out periodically during the search) in order to maintain maximum stability and sensitivity.

The movement of the antenna should be carried out in parallel bands that overlap by up to 30% in order to not miss any portion of the search field. The speed of movement should be about 1 yard per second.

6.Search for metal objects with handle-mounted coils: When the terrain does not allow searching with a “frame” coil, **Golden Mask Deep Hunter Pro3** can be used with handle-mounted round search coils. Search with such antennas does not differ from the search with a “frame”. The round coils are much more sensitive to identifying small objects and should be used for such searches. In addition, the purpose of the round coil is to replace the “frame” in inaccessible areas and provide an opportunity for individual work, without an assistant. The movement with round coils should be done very slowly.

Unlike traditional **VLF metal detectors**, using the principle of inductive balance, the **Golden Mask Deep Hunter Pro3** can detect metallic objects without motion. The movement is only necessary to identify the type of metal, a speed of about one m/s is sufficient for the discrimination system to function properly.
The search height above the ground surface with the round coils antenna **must be constant (about 10 cm or more)**.
If you hold the coil too low or touch the ground, you will experience faulty signals. All activities and settings recommended for the use with “frame” coils apply as well to searches with “hand” the round coils.

7.Indication of the presence of a metal object within the coil area: The signal from a metal object, located in the area of the search coil is indicated by increasing the frequency of the sound signal (“ticking” sound).
Most weak signals an operator is able to notice are improved by doubling the preset frequency of the sound with the **“CRACKLE On/Off”** knob. This is perceived accurately by the human ear and therefore it needs to be set very precisely, so that the sound frequency without the presence of a signal to be only a few Hz (slow “ticking” sound).
Each “signal” has “start” and “end”. The **Golden Mask Deep Hunter Pro3** has a very well expressed “zone” indication from deeply buried metal objects with the use of a frame coil. The length and width of this “zone” is a guide to the depth/size of the metal objects. When this length is greater than the size of the search antenna and has an expressed peak in the middle this certainly indicates a deeply buried metallic object. If the signal is of a short duration (small area), but is captured only in the central part of the coil, then you can also expect a deeply buried metal object. Double audible responses corresponding to the passage of the front and rear ends of the “frame” over the metal object are a sure indication of relatively small metallic object not deeply

buried. The use of a round coil gives a slightly different and shorter signal compared to frame coils. After reaching a certain signal strength (which will be indicated on the indicator **“SIGNAL”**), the identification of the type of metal through the LEDs mounted in the indicating **“SIGNAL”** will start to work. The red color indicates non-ferrous metals and green indicates ferrous metals (iron). To present a high probability of proper metal type identification, when you detect a target, move the coil outside the target area, press the **“RETUNE”** button and then pass the antenna over the target from a different direction. Repeat as many times as you want to identify the type of the metal more securely. With a little experience, anyone can learn to recognize the nature of the various signals, which will lead to better use of the great capabilities of the **Golden Mask Deep Hunter Pro3**

8.Signal additional amplification (“BOOST”).

The additional amplification of the received signal provides increased depth of detection (about 20%), but Its’ use is recommended only after acquiring some experience in working with the unit, since increased sensitivity could lead to increased number of ghost or false signals. Setting different values of the **“SENSITIVITY”** and using the **“BOOST”** button can lead to different behavior of the device. You will understand this function with practice and experience.

9.“Silent” Mode

In **“Silent”** mode the detector can be switched with the **"CRACKLE On/Off"** knob, when it is set to "Off". This mode can be chosen at any time. In **“Silent”** mode the “ticking” sound is not heard and the presence of metal target will be indicated with a high pitch tone for non-ferrous metals, and low pitch tone for ferrous metals. In the **“Silent”** mode the sensitivity is lower, but this mode is very suitable for highly “trashy" sites (where some small, mainly iron metal objects are present, and these objects

are not an objective of the search). In **“Silent”** mode, the detector achieves a better “rejection” of junk metals and provides a much more efficient search of large objects.

10.Rejection of small metal objects.
Often, in an area where large metal objects are searched for and the metal detector is set to high sensitivity, many (unwanted) small metal targets could be indicated. Decreasing the sensitivity and/or use of **“Silent”** mode sometimes could return acceptable results, but the **Golden Mask Deep Hunter Pro3** provides the ability to eliminate small metal objects without reducing the sensitivity. This is accomplished with the **“TRASH”** knob. The lower the value selected with this knob, smaller metal objects are detected. After doing some tests with multiple "samples" of different metallic objects and sizes, you will learn which values of the **“TRASH”** settings are best for your needs.

11.Charging the built-in battery: To ensure longer life of the built-in battery it must be charged with only the supplied charger. You should regularly check the charge level of the built-in battery with the button **“Battery Check”** (inspection is possible only when the detector is switched “On”) and you must turn off the detector once the red LED "Battery" (located in the lower right corner of the indicator) is lit.

<u>To charge the built-in battery:</u>

1. Turn **“Off”** the detector, remove the coil jack and plug the charger jack into the connector labeled **“Charge”** on the front panel of the device.

2. Place the detector in an upright position near a power outlet with voltage 120-240V and connect the automatic charger into the outlet.

The charging is indicated with a RED-color LED light on the charger housing.

When the charging process is completed, the LED light turns blue.

The duration of charge of an discharged battery is about 6 - 8 (8-10) hours.

When the charge is completed, remove the charger from the power socket and then remove the charger jack from the connector **"Charge"**.

3. Turn **"On"** the detector and check the charge level by pressing **"Battery Check"** button. With a properly charged battery, the arm of the indicator must show a value greater than **"8"**. If the reading is lower than **"8"**, reconnect the charger and repeat the charging process!

To replace the battery, you should contact your **Golden Mask Deep Hunter Pro3** dealer.

WARNING!

Never replace the battery without consulting your dealer. Replacing the battery with a non-genuine one could damage the detector and voids the warranty!

12. Relative depth of detecting of metal objects in different modes

Mode	CRACKLE	BOOST	Depth
1	Off.	Off.	65%
2	Off.	On.	75%
3.	On.	Off.	100%
4.	On.	On.	120%

Operating Notes

1. If, while searching, random disturbances or prolonged changes of the frequency of the sound signal (false signals) appear, the **"RETUNE"** button must be pressed. This action can be repeated several times to ensure complete elimination of the interference and re-establish stabile operation. Reducing the sensitivity and/or excluding the additional signal amplification **"BOOST"** will also reduce interferences.

2. To **maximize the sensitivity and the stability** of the detector during operation, do this:

1. Set **"TRASH"> "0"**, **"BOOST"** = **"ON"**, **"CRACKLE" = 5; "SENSITIVITY" =10; "VOLUME" = 8.**

2. Place the coil on the ground surface.

3. Switch **"ON"** the detector.

4. Pres and hold the **"RETUNE"** button and turn the **"SENSITIVITY"** knob counterclockwise to find the max value, which can be used.

5. Release the button **"RETUNE".**

6. Lift the coil to working distance above the ground surface.

7. Reduce (rotate in counterclockwise) very fine **"TRASH"** (about only **1 to 2 mm** on the potentiometer scale) to find the threshold of sound.

8. Start searching with **carefully keeping the distance** from the ground surface

Do not press more button "RETUNE"!

Use this tune always before start searching, if the button "RETUNE" was pressed, and you will get more depth.

3. When switching **“Off”** the detector, the red LED **“Battery!”** will be lit for a second or two. This does not indicate a battery problem. Only when this LED lights-up when the detector is turned “On” (running), you should charge the battery.

4. Keep a consistent height of the coil above the surface during the search to ensure optimal functioning of the systems to eliminate the influence of the ground and the maximize detection depth.

5. Do not use (or leave) the detector in a humid environment or in wet bushes, snow and/or water – the electronics unit could be damaged as it is not sealed. When you connect the coil to the electronics, you should prevent the entry of dirt or moisture in and around the contact pins of the connectors.

6. Working with the detector in industrial areas and places with a large amount of metal junk in the soil, and/or with presence of industrial electromagnetic interferences, can lead to instability and/or inability to work. This requires reducing the sensitivity of the device with the **“SENSITIVITY”** knob, which will reduce the depth of detection, but this is the only way to achieve stability in such conditions.

7. After extensive work with the detector, with repeated attachment and removal of search coil connectors, the connector could be damaged - please carry out these activities very precisely and carefully to avoid costly and severe damage. Contact points of the connector should be kept clean and dry.

8. If the indicator **“SIGNAL”** shows a negative value (arrow deviates to the left of zero) after lifting the coil from the ground, this means that a metallic object was located under the coil. In such cases, move the coil to another location, turn on the device again, press briefly the **“RETUNE”** button and start the search.

9. Switch-on the detector for about 15 minutes in the area of search before starting to search for metal objects. During this time the **Golden Mask Deep Hunter PRO3** electronics are self-adjusting to the ambient temperature/humidity and the detector reaches its optimum operating capabilities.

10. Do not attempt to use the detector after the built-in battery is discharged as this can result in damage to the battery and/or the electronics.

11. Always keep the electronics clean from dust, grease and moisture. Use only dry and soft cotton cloth for cleaning.

12. If you use the detector in areas where there is possibility of the presence of buried weapons and/or explosives, you must proceed with great caution. The manufacturer and the dealers are not responsible for the any damage or injuries resulting from such use of the detector.

13. If you are looking for metal objects in areas where there could be underground pipe or electrical lines, you must call the relevant authorities responsible for the maintenance of these lines for permission. Do not perform excavation without proper permission. This is especially important in regions in and around cities and industrial sites.

14. The use of high-quality headphones (not included) connected to the **“PHONES”** socket will help achieve better results.

15. The manufacturer and dealers are not liable for trespass, damages or injuries that could result from any use of the **Golden Mask Deep Hunter PRO3**

Key Points for Successful Detecting

Never touch the detector antenna on the ground surface during searching. Keep it always at the distance of the ground.

For frame coils, coins, nails and other very small metal objects will cause two signals when passing over them while large metal objects will produce and extensive signal of long duration.

For all coils (frame and round), deeply buried metal objects will cause a weak and slowly increasing sound and meter reading and reach their peaks at the target center.

Targets near the surface generate a strong and rapidly increasing signal.

Near surface targets generate a high pitch sound while deeply buried metal objects produce low pitch sounds that build in intensity as the center is approached.

Shallow target, large deep target, large, deeply buried targets will cause a long duration signal, increasing in intensity and pitch as the center is approached.

GM Electronics Ltd.