



GOLDEN MASK DEEP HUNTER Pro AE



Instruction manual

Golden Mask Deep Hunter Pro AE is a professional treasure and relic hunting metal detector designed primarily to detect deeply buried metal objects.

Golden Mask Deep Hunter Pro AE is pulse induction metal detector, with full range “**flash automatic ground exclusion balance**”, “**reject control**” and “**discriminate**” between ferrous and non-ferrous metals. It has developed as an advanced machine feature new “Smart Tune” ability, which allow to get more depth only by pressing one button.

Golden Mask Deep Hunter Pro AE can significantly reduce the negative effects of power line and other electrical interference. Like the all well known **Golden Mask Deep Hunter** pulse detectors, this detector offers remarkable stability, sensitivity and accuracy that is achieved with the use of very simple and intuitive settings.

The Pulse Induction principle of metal detecting 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.

1. Golden Mask Deep Hunter Pro AE Set

1.1 Electronics Unit

The electronic unit is fixed on the handle of the search antenna carrying shaft.

The detector is powered by **12.0V/3700 mAh NiMH** battery pack of 10 pcs size “SC” cells placed in a holder into the battery block, also fixed on the shaft.

The continuous use of the detector is about **20 hours** per one battery charge.

If you find any defect of the delivered detector, please contact the dealer from whom you was purchased it immediately, and inform him of the problem.

Never attempt to disassemble and/or repair the electronic unit. Your disassembly attempts will void the warranty!

1.2 Search Coils

The detector is delivered with a variety of coils as desired by the customer. All search coils and frames, manufactured to work with **Golden Mask Deep Hunter** pulse detectors, are fully compatible with **Golden Mask Deep Hunter Pro AE** .

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 Pro AE** is an frame coils size 125x125 cm and “handheld” coil **58 cm**.

Another small size coils are available too. They are suitable for areas where the movement of the big 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 Pro AE smart battery charger

1.4 This Instruction Manual

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

3.Settings - Golden Mask Deep Hunter Pro AE 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 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;

“**AUDIO TONE - On/Silent**”- knob for adjusting the “ticking” frequency in absence of metal within the area of the search coil; In positions “**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 “**AUDIO – On/Silent**” is in position “**Silent**” 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.

“**REJECT**” – this knob is used for rejecting undesirable small pieces of metal and noise reduction in extremely mineralized soils. A higher value rejects more objects and mineralized soils noises.

“**SMART TUNE**” – this button is used for fast tune of the machine. It pressing for a 1 second make the detector more stable and "deep". This feature is performed by “smart” retuning both special systems - AGEB and tracking control. It is used for removing of interferences and noises encountered during the search process too.

"**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, (see **#10**).

"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. When it light it is necessary to recharge the battery. (see **#10**).

4.Ground Balance.

The **Golden Mask Deep Hunter Pro AE** provides full range automatic ground balance based on a proprietary **"Flash Auto Ground Balance"** and **"Tracking control"** systems which are a standard to all pulse detectors **Golden Mask**.

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 should be reduced additionally by the increasing the **"REJECT"** control and/or reducing the **"SENSITIVITY"** control of the detector.

5.Searching for metal objects with frame search coil.

The **Golden Mask Deep Hunter Pro AE** 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 should be moved very 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 search 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 “**SEARCH 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.

There are a another way for individual work with a “frame” type search coils, when the operator stands/walks inside the frame holding both belts while controlling the detector.

WARNING!

Newer use such way to searching with Golden Mask Deep Hunter Pro AE!

The use of this method, and/or any “entry” of the operator or another assistant inside the “frame” coil of the Golden Mask Deep Hunter Pro AE 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, you can be “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 “**SMART TUNE**” 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 m/s**.

6. Searching for metal objects with “handheld” coils.

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

Unlike traditional **VLF** metal detectors, using the principle of inductive balance, the **Golden Mask Deep Hunter Pro AE** can detect metallic objects without motion. The movement is only necessary to identify the type of metal, a speed of about **1 m/s** is sufficient for the discrimination system to function properly.

The search height above the ground surface with the “handheld” coils must be constant too and 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 “handheld” 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 “**AUDIO TONE On/Silent**” 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 Pro AE** 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 “handheld” coil gives a slightly different and shorter signal compared to frame coil.

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 light** indicates non-ferrous metals and **green color light** 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 “**SMART TUNE**” 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 Pro AE

8. Silent mode

In **silent mode** the detector can be switched with the “**AUDIO – On/Silent**” knob, when it is set to “**Silent**”.

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 this mode, the detector achieves a stronger “rejection” of junk metals and provides a much more efficient search of large objects.

9.Rejection of small metal objects.

Often, in an area where large metal objects are searched for and the metal detector is set to high level of “**SENSITIVITY**” control, many (unwanted) small metal targets could be indicated. Decreasing the “**SENSITIVITY**” control (sensitivity) and/or use of “**Silent**” mode sometimes could return acceptable results, but the **Golden Mask Deep Hunter Pro AE** provides the ability to eliminate small metal objects without reducing the sensitivity. This is accomplished with the “**REJECT**” 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, you will learn which values of the “**REJECT**” settings are best for your needs.

10.Charging the battery: To ensure longer life of the battery it must be charged with only the supplied charger.

To charge the battery:

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 electronic block.

2. Place the detector in 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 same LED turns **BLUE-color** light.

The duration of charge of fully discharged battery is about 8 - 12 hours.

When the charge is completed, remove the charger from the power socket and then remove the charger jack from the detector.

3. Turn “**On**” the detector and check the battery level by pressing the “**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 batteries from the battery holder you must open the front cover of the battery block.

WARNING!

If you need to replace the built-in battery, please contact the dealer from whom you purchased the detector.

OPERATING NOTES:

1.If, while searching, random disturbances or prolonged changes of the frequency of the sound signal (false signals) appear, the “**SMART TUNE**” button must be pressed. This action can be repeated several times to ensure complete elimination of the interference and re-establish stable operation. Reducing the signal amplification (“**SENSITIVITY**” control) will also reduce interferences.

2. 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.

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

4. 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 will be the only way to achieve stability in such conditions.

5. 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.

6. 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 “**SMART TUNE**” button and start the search.

7. 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 Pro AE** electronics are self-adjusting to the ambient temperature/humidity and the detector reaches its optimum operating capabilities.

8. 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.

9. 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.

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

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