

Golden Mask Deep Hunter Pro2

Golden mask Deep Hunter pro2 is a professional metal detector designed specifically to detect deeply buried larger metal objects (such sizes larger than 8 cm). He has the ability to indicate the type of metal and system to significantly reduce interference caused by power lines.

Golden mask Deep Hunter pro2 is an advanced version of the well-known Golden mask Deep Hunter pro with added "automatic ground balance", double high capacity built-in battery and significantly improved performance based on an entirely new electronics.

Golden mask Deep Hunter pro2 has remarkable stability, sensitivity and accuracy that can be achieved with very simple and intuitive settings. The apparatus provides a possibility of adjusting the frequency of the sound indication and sensitivity; manual and automatic ground balance; "Silent" mode with two tone indication of the type of metal, and further amplify the received signal, which increases the depth of detecting metal objects up to 20%.



CAUTION!



Do not connect or use the "Golden Mask Deep Hunter" metal detector if near the search coil are people or animals with heart problems or people using electronic devices for the health treatment and/or prevention! The electromagnetic field of the detector may cause fatal malfunction in electronic devices which determine the life and health of people and animals!

1. Components of the detector set

1.1. Electronic block with built-in NiMH battery provides about 18 hours of use per charge. The electronic block is placed in a specially designed leather case with a handy carrying strap.

It is recommended not to remove the leather pouch for the entire lifetime of the device.

1.2. Search coils (antennas)

The detector is delivered with antenna(s), specified by the customer during ordering. Antennas could be additionally purchased from an authorized Golden Mask dealer.

Do not use self-made antennas or antennas from other brands! There is a real risk of damage that is not covered by the general conditions of the guarantee!

The main antenna of Golden mask Deep Hunter pro2 is a square frame. It is made from PVC pipes, flanges and bends (d=32 mm). The pipes form the antenna support, to mount the antenna cable on with cable ties Velcro type. Usage of this antenna requires an assistant.

Round antennas are attached to a shaft. These antennas are suitable for areas where the movement of a frame is impossible, such as residential buildings (walls, floors, ceilings), the vertical slopes of the terrain and other specific areas.

1.3. Golden Mask extra special battery charger.

1.4. This Instruction manual

2. Principle of operation

High-frequency pulse induction (advanced version) with flash automatic ground exclusion and multi-channel signal processing to identify the type of the metal target.

3. Controls and Indicators

Golden mask Deep Hunter pro2 uses extremely simple and intuitive controls:

- **"VOLUME On/Off"** - potentiometer for adjusting the volume and "switch On" - "switch Off" of the detector;

- **"SENSITIVITY"** - potentiometer to adjust the sensitivity of the detector;

- **"CRACKLE On/Off"** - potentiometer for adjusting the frequency of sound in the absence of metal in the detection area of the search antenna;

In position "On." Detector is in its core search mode. The potentiometer is used to adjust the frequency of the sound indication in the absence of metal in the area of the antenna. This is strictly individual adjustment and relates exclusively to the individual auditory characteristics of the operator. It does not affect the performance of the detector and is designed solely to provide a better detection of weak signals.

In position "Off." the detector is switched to the so-called **"SILENT"** mode - during the search there is no an audible crackle sound and the presence of a metal object in the area of the antenna is indicated by a low tone (for ferromagnetic metals - iron) or high tone (non-ferromagnetic metals

- ferrous metals). In this mode, the detectors 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 subject of the search.

- **"GROUND Man/AUTO"** - potentiometer for setting the system to eliminate the influence of the ground.

In position "Man" the detector should be set to eliminate the influence of ground manually.

In "AUTO" position the detector uses a special automatic system to eliminate the influence of ground automatically.

- **"RETUNE"** - button for quick readjustment of the detector and remove the interference in the searching process.

- **"BOOST"** - switch the additional amplification of the received signal:

- "OFF" - normal depth of detection;

- "ON" - about 20% extra depth of detection.

(After turning to "ON" position you should make an initial system setup to eliminate the influence of the ground in "manual mode", or press the "RETUNE" in "AUTO mode");

- **"SIGNAL"** - analogue meter indicating the strength of the received signal and level of charge the built-in battery; there are embedded-in 3 LEDs for indicating the type of metal and the condition of the battery:

- "Fe", "n-Fe" - LED indication of the type of metal -

green for ferromagnetic metals and red for non-ferromagnetic metals;

- **"Battery!"** - LED for indicating less than 10% residual charge of the built-in battery, whereby it must be loaded (see item 8);

- **"Battery Check"** - button to check the level of battery charge. This button can be used at any time. When the arrow is in the red sector, the battery should be charged!

4. Eliminating the influence of the soil (ground balance).

Golden mask Deep Hunter pro2 use two alternative ways of eliminating the influence of the soil (ground balance) - manual and automatic.

In "manual ground balance" the initial adjustment to eliminate the influence of the soil is made manually.

In "automatic ground balance" the detector requires no setup through the unique to this model "Flash Auto Ground Balance" which continuously rejects the signals caused by the soil. (This mode may require some reduction in sensitivity of the device in some cases, especially on "heavy" soil.)

4.1. Manual "Ground Balance"

This method to eliminate the influence of the ground requires an initial setup. The purpose of this adjustment is to remove the signal caused by the soil which for the detector is a "subject" similar to metal. The device is able to subsequently automatically self-retune to the changes in the level of the soil signal (the signal from the ground), but it is necessary to set the initial level, which in different areas may

be different. This is done in order to exploit the maximum sensitivity of the device in all areas. The process is known as "Ground Balance" and have to be done mandatory before beginning to search, no matter what the environment in which we are looking for metal objects.

This process includes the following activities:

1. Search antenna must be placed on the ground in an area where it is assumed that no buried metal objects are present.
2. The "CRACKLE On/Off" knob should be set to "5".
3. Set the value of the desired sensitivity of the device (depth of detection) with the "SENSITIVITY" (larger values provide high sensitivity).

The values selected depend on the nature of the environment in which you will be searching - in "light" soil it can be initiated with values around "7" ÷ "9"; in "heavier" soil it is better to choose lower value: "5" or less in the scale of the potentiometer. Subsequently, this value can be increased to the maximum possible for the conditions.

4. The potentiometer "GROUND Man/AUTO" is set to "7".
5. Turn the "VOLUME On/Off" in a clockwise direction to "On" and set the level of the volume. Values around "6" ÷ "8" on the scale of the potentiometer are usually sufficient.
6. Turn "GROUND Man/AUTO" in the direction counterclockwise to the emergence of sound - "hum" or "pop" (setup known as "threshold").

Achieving such a setup is very important for a successful operation and maximize the potential of the detector.

7. Lift the antenna above ground surface to the height at which it will be used during the search (about 10 cm).

If after lifting the antenna the needle on the meter "SIGNAL" deviate to the left of the position "0", this means that under the antenna was a metallic object and the initial setting is not performed correctly. Move the antenna to another location and repeat actions 1 to 7.

8. Press and release the button "RETUNE".
9. By the potentiometer "CRACKLE On/Off" can be tuned the the frequency of the sound that will be heard during the searching when there are no metal in the antenna area.

When there is a metal object within the scope of the search antenna this sound began to increase in frequency. In order to detect the smallest changes in the frequency of the sound indication it is very important to choose the initial frequency. This setting is highly individualized and performed "by ear." While working with the accumulation of experience operator will establish the most appropriate setting.

10. Again press for a short time and release the button "RETUNE".

After completion of the above actions the setting is completed and the detector can be used to detect metal objects.

4.2. Automatic "Ground Balance"

1. The potentiometer "GROUND Man/AUTO" should be placed in position "AUTO".
2. Follow 1, 2, 3, 5, 8, 9, 10 listed in paragraph 4.1.

Automatic "ground balance" ensures stable operation at maximum sensitivity (including the further enhancement of the received signal "BOOST" = "ON"), but the overall depth of the opening is smaller compared to manual mode.

If the device works unstable during the movement of the antenna above the ground, the "SENSITIVITY" should be reduced and/or the "BOOST" switched-off.

5. Search for metal objects with frame antenna

Golden mask Deep Hunter pro2 is designed to be used with big size antennas of type "frame". This is the main way to search for deeply buried metal objects. The antenna is moved slowly at a constant height (10 cm or more) above the ground. Antennas of type "frame" are delivered in the form of "antenna cable" in length corresponding to the respective size of the frame and a set of plastic pipes and fittings for assembling the supporting structure of the frame.

The "antenna - cable" is composed of series-connected conductors in multi-conductor special cable, that forms a coil with certain parameters. It is mounted onto a frame of PVC pipes, joints and elbows, and fixed using the enclosed cable connections type "Velcro". The connecting cable is plugged into the connector labeled "Coil", which is mounted on the right edge of the front panel of the electronic block. The connecting cable must be tightened well after placing the connector.

Search with "frame" needs an assistant who helps the horizontal movement of the frame, using one of the enclosed belts. With another belt operator brings the detector and determines the height and direction of movement.

Standing inside the search coil during operation is strictly prohibited! Adverse effects of the electromagnetic field can lead to serious health problems and / or injuries!

If you don;t have an assistant, you could practice "dragging" of the antenna. For this purpose you could build a device of type "sledge" made of non-metallic materials. This device must provide a constant height (about 10 cm) of the frame above the ground.

A search should always begin with a brief pressing the "RETUNE" button, which is recommended to be done periodically during the search, in order to maintain maximum sensitivity.

The movement of the antenna must be carried out in parallel strips (bands) which overlap by up to 30% in order not to miss a portion of the field. The speed of movement should be about 1m/s.

6. Search for metal objects with round (hand) antennas

When the terrain does not allow to search with a "frame" Golden Mask Deep Hunter Pro2 can be used with smaller (round, "hand") searching coils (antennas) mounted on a special shaft for individual work. Search with such antennas does not differ materially from a search with a "frame".

Since the detector is not designed to detect coins and small metal objects, even with a "hand" antenna you should not expect to detect these objects, even if it is possible and many users do it with success. Its purpose is to replace the "frame" in inaccessible areas and provide an opportunity for individual work (without assistant).

Moving with "hand" antenna should be carried out very slowly. Unlike traditional VLF metal detectors using the principle of inductive balance, Golden mask Deep Hunter pro2 can detect metal objects without motion. The movement is only necessary to identify the type of metal, such as speed of about 1 m/s is sufficient. The search height above surface with "hand" antenna must be 5 cm or more.

All recommendations for the use of antenna type "frame" apply to work with "hand" antennas also.

7. Indication the presence of a metal object in antenna area

The signal from a metal object, located in the area of the search antenna is indicated by increasing the frequency of the sound signal.

Most weak signals are captured by doubling the preset frequency of the sound with "CRACKLE On/Off". 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 (sounds like crackles).

Each "signal" has "start" and "end". Golden mask Deep Hunter pro2 has very well expressed "zone" indication signals from deeply buried metal objects in search with frame. The length of this "zone" is a guide to the depth of the metal objects. When this length is greater than the size of the search antenna and has a characteristic peak in the middle - certainly refers to a deeply buried object. If the signal is of a short duration (area), but captures only a central part of the antenna, then also expected discovery of deeply buried metal object. Two-time audible indication corresponding to the passage of the sides of the "frame" over the metal object are sure indication of shallow buried small metal objects.

The use of round (hand) antenna gives a slightly different (more "short") signal compared to the frame. This is due to the physical size of the antenna and must be considered in determining the area where the expected opening of the metal object is.

After reaching a certain level of the signal (which will be observed in the indicator "SIGNAL"), it will be carried out indication of the type of the metal through the LEDs mounted in the indicating "SIGNAL". The red color indicates a non-ferromagnetic metals and green - for ferromagnetic metals (iron).

There may be a discrepancy and indication of the type of metal as it depends on many factors which impulse metal detectors can not always be accounted for properly.

Once "detected" metal object is repeated over alleged passing zone, outside zone press briefly and relies button "RETUNE" and then passes from different directions.

With the acquisition of some experience anyone can learn

to recognize the nature of the various signals, which will guide in making better use of the capabilities of the device. It depends on some extent and precise adjustment of the ground balance and properly selected starting frequency of the sound indication.

8. The additional signal amplification ("BOOST")

The additional amplification of the received signal provides increased depth of detection, but its use is recommended only after acquiring some experience in working with the unit.

After turning "ON" the "BOOST" set potentiometer "SENSITIVITY" to "5". All settings are carried out as specified in item 4.

Turn clockwise "SENSITIVITY" to the highest value which is possible to achieve the setting "threshold" in "manual ground balance" or quiet operation when running with "automatic ground balance."

It should be recognized that setting the apparatus of "threshold" mode in "manual ground balance" can be performed as a "GROUND Man/AUTO", and/or a "SENSITIVITY", and depending on whether it is included further amplification of the signal, the set-point will be different.

Working with different values of "SENSITIVITY", and using the extra gain with "BOOST" assume different behavior of the device.

9. "Silent" mode

In "silent" mode the detector can be switched with potentiometer "CRACKLE On/Off." set to "Off". In "silent" mode the crackles are not heard and presents of metal will be indicate with dual tone - "high" - for non-ferrous metals and "low" - for ferrous metals.

In this mode the sensitivity is lower, but this mode is particularly suitable for highly "polluted" sites (where numerous small, mainly iron, metal objects that are not subject of searching are present).

In "silent" mode the detector achieves a "rejection" of adverse metals and much more efficient search of objects with larger sizes.

10. Charging the built-in battery

To ensure maximum longevity of the built-in battery, use only the supplied charger Golden Mask extra special battery charger.

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 stop working when the red LED "Battery" (located in the lower right corner of the indicator) lights.

To charge the built-in battery:

1. Turn "Off." the detector, remove the antenna jack and put the charger jack into the connector labeled "Charge" on the front panel of device.

2. Place the detector in an upright position near the contact voltage 90 ÷ 240V and connect the automatic charger into an outlet.

The LED mounted in the charger lights in red color.

In this state the display remains until the charging process is complete, then the LED turns blue.

The duration of charge is about 6 ÷ 8 hours.

Remove the charger from the socket and then remove its jack from the connector "Charge".

3. Turn "On" the detector and check the charge level by pressing "Battery Check" button.

Indicator must show a value greater than "7".

If the reading is lower reconnect the charger and repeat charging.

11. Replace the built-in battery

To replace the battery you should contact the dealer from whom the detector was purchased. It will provide information on how to proceed for the replacement.

Replacement the integrated battery with any other than those offered by the manufacturer batteries is prohibited.

10. Relative depth of detecting in different modes

Golden Mask Deep Hunter pro2 enables the operator to combine the settings of the device and its use in 8 different modes of operation.

When working on "heavy soil" sites are preferred modes with a lower number.

The relative depth of detection is determined based mode №6 at equal values of the potentiometer for adjusting the sensitivity SENSITIVITY.

Mode	Ground ballance	CRACKLE	BOOST	Depth [%]
1	AUTO	Off.	Off.	65%
2	Manual	Off.	Off.	70%
3	AUTO	Off.	On.	75%
4	Manual	Off.	On.	80%
5.	AUTO	On.	Off.	90%
6.	Manual	On.	Off.	100%
7.	AUTO	On.	On.	110%
8.	Manual	On.	On.	120%

NOTES:

1. In "manual ground balance" the value of potentiometer "GROUND Man/AUTO", in which achieved initial setting, may be increased to one - two graduations on the scale. This setting is made more "rough" sensitivity of the device and depth decreases slightly, but achieved greater stability and higher accuracy readings of the system to recognize the type of metal.

In areas where previously performed initial setting of "ground balance" and / or known its value, the potentiome-

ter "GROUND Man/AUTO" can be set this value and demand to start without starting setup.

2. During the initial setup in "manual ground balance" do not switch the detector in "silent" mode!

3. Use the further gain of the received signal "BOOST" in "manual ground balance" requires mandatory doing a new initial setup.

4. If at work appear random disturbances or prolonged change the frequency of the sound signal (false signals) - must be pressed briefly "RETUNE".

This action can be repeated several times until no interference to carry out a new initial setting in "manual ground balance" or reduce the sensitivity and/or exclude additional signal amplification "BOOST" in "automatic ground balance" (ie. 4).

5. When switch "Off" detector can be observed for some time lights LED "Battery!". This is not a problem with the battery. Only when this indicator lights up when turned "On" (running) machine, then you should proceed to charge the built-in battery.

6. To maximize the potential of the device during operation it is advisable to pressure short "RETUNE" from time to time.

7. Keeping permanent height above surface during the search will ensure optimal functioning of the systems to eliminate the influence of ground and thus the maximum depth of detecting metal objects.

8. Do not use (or leave) the detector in a humid environment, wet bushes, snow and/or water – it cannot work stability and can be damaged electronic block (not sealed) and built-in battery. When you connect the antenna to the electronics must prevent the ingress of water or moisture in and around the contact pins of the connectors.

9. Work with the detector in industrial areas and places with a large amount of scrap metal in the soil, and presence of industrial electromagnetic interference can manifest instability and/or inability to work. This necessarily requires reducing the sensitivity of the device with the potentiometer "SENSITIVITY", which will reduce the depth of detection, but this is the only way to achieve stability and demand in such conditions.

10. After extensive work with the detector, suggesting repeatedly accession and separation of the antenna may appear defect connectors, which is why these activities should be carried out very precisely and carefully. Contact points should be kept clean and dry.

11. If after lifting the antenna from the ground indicator "SIGNAL" show a negative value (arrow deviates to the left of zero), this means that under the antenna was metallic object during the preparation of the unit to work.

In such a case - move the antenna to another location, turn on the device again and do again initial settings (item 4), then press briefly button "RETUNE" and continue the search.

12. Please leave the detector switched "On" for about 15 minutes in the area of work before it can be used to search

for metal objects. During this time the electronics are "self-adjust" to the ambient temperature and the detector reaches optimum operation.

13. Do not attempt to use the detector after tripping indication consumed charge the built-in battery. This can result in damage to electronics.

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

15. If you use the detector in areas where it is possible presence of buried weapons and/or explosives provide all precautions because the manufacturer and dealers are not responsible for the consequences resulting from such use of the detector.

16. If you are looking for metal objects in areas where it is possible to be laid underground lines on the grid - must call the relevant authorities responsible for the maintenance of these lines or perform excavation without their permission.

This is especially important for regions in and around the settlements and industrial sites.

The same goes for underground gas supply installations of oil and/or fuel and other underground facilities.

17. The use of high-quality headphones (not available at box) connected to the socket "PHONES" helps achieve even results.

The manufacturer and dealer are not liable for damages or injuries that could result from ground digging activities.

The text of this User Manual is provided by the manufacturer of the device.

FRAME COILS ASSEMBLY SCHEME

The frame coil consists of plastic pipy parts that should be inserted one into another and form the frame square. (see picture bellow). The actual coil is a special cable-like circle, that should be attached to the carrying frame. The plastic frame is used to support the search coil circle cable.

After you assemble the frame, you have to attach the coil cable circle to the plastic frame using the velcro straps. Finally, attach the carrying straps on two opposite sides of the frame, attach the coil cable to the main device and you're ready to go.

