

# USER'S MANUAL



Underground Magnetics

[www.undergroundmagnetics.com](http://www.undergroundmagnetics.com)

MAG series ►

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# 1Caution

The user must understand safety procedures and correct operation methods before operating the HDD and the locating system.

HDD machines can cause property damages and personal injuries upon striking underground power lines, gas lines, phone lines, television cables, fiber optic cables, or sewage lines. Make sure to confirm and mark all underground utilities before operations.

Do not use the locating system near flammable and explosive substances.

Wear proper safety gear including steel-toed boots, safety gloves, helmets, reflective vests, and safety goggles.

Obey all the local safety regulations.

This locating system is only a tool to assist the operator to locate the drill head. It is the operator not the Mag series locating system that is responsible for identifying the drill head location. Underground Magnetics is not responsible for any loss caused by using the Mag series. Users should operate the Mag according to the manual. If you have any questions, please contact Underground Magnetics.

## 2 Product highlights

1. High precision and high anti-interference Faraday shield 3D antenna structure
2. Industrial gold-plated industrial rated electronic modules
3. High-performance DSP
4. 2 in 1 locating system, functioning as two locators independently tracking to provide better accuracy and reliability
5. up to 50m depth range, up to 200 hours continuous usage



## 4.Display specifications

Radio freq: 915MHz

Power: Lithium rechargeable batteries

Battery life: up to 50 hours

Display: Industrial rated LCD graphic display

Telemetry: 4 radio channels with range up to 1.2km

Temperature: Under 85°C

Dimensions: 19cm\*13cm\*19cm

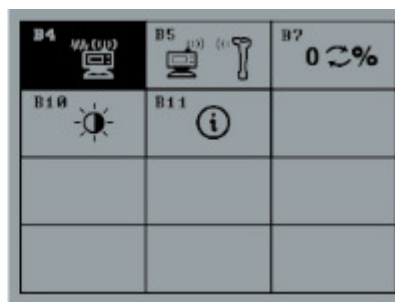
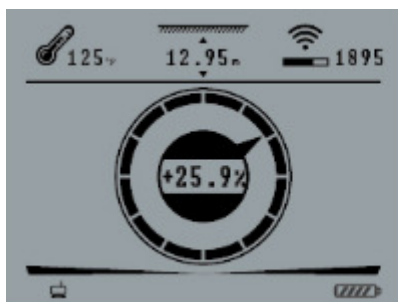
Weight: 1.5kg


Water proof: IP65




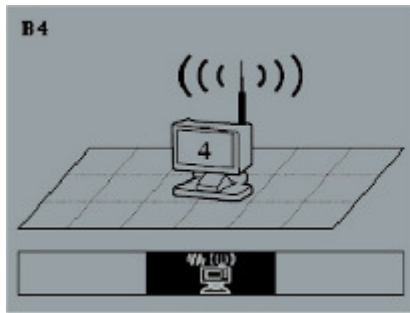
### 4.1 Display

#### 4.11 Display telemetry selection

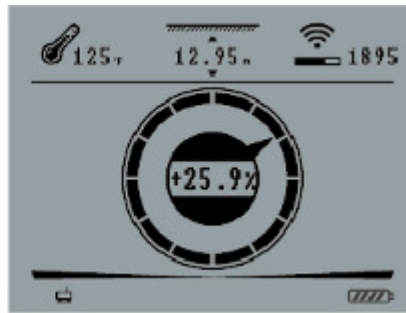


1. Press and hold  to enter the Setup page.

2. Tap  to enter the radio channel page.

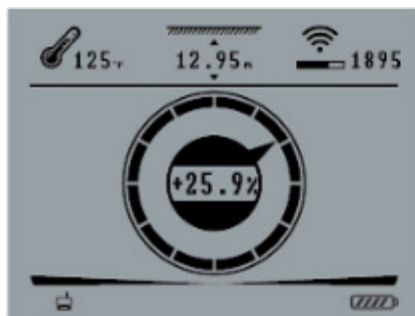


3. Use to select radio channel

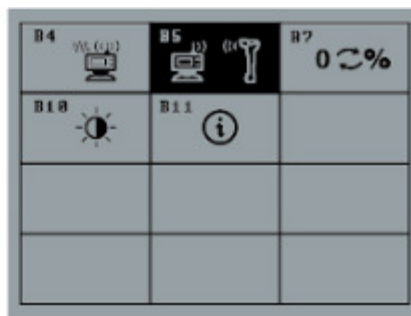


4. Tap to return to the main page.

### 4.1.2 Radio register

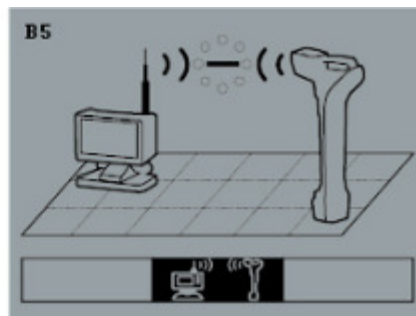
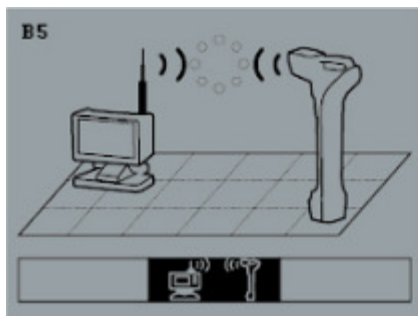


1. Press and hold to enter the setup



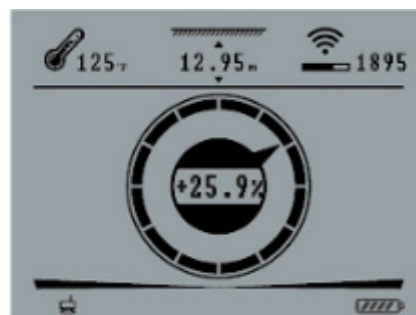
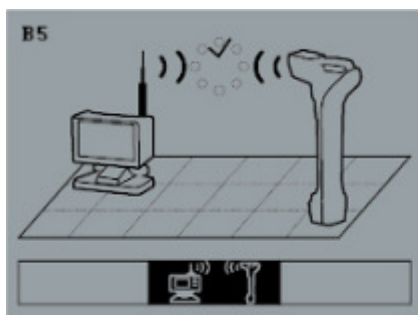
Page

2. Tap to select B5 radio registration.



3. Tap to enter radio registration page. 4. Tap 2 times to start radio registration.

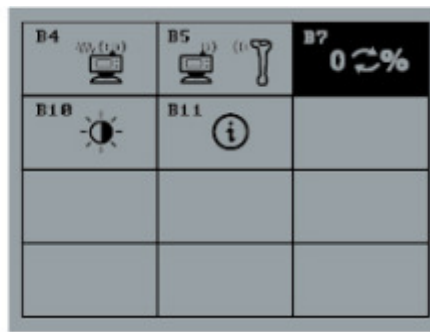
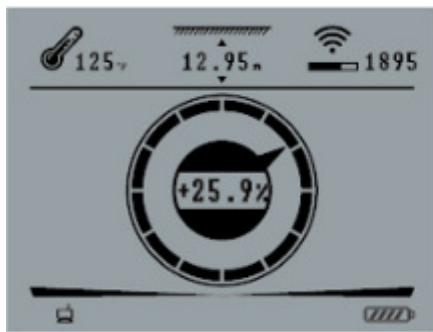
(It is required that the following procedure is performed on the display at the same time)





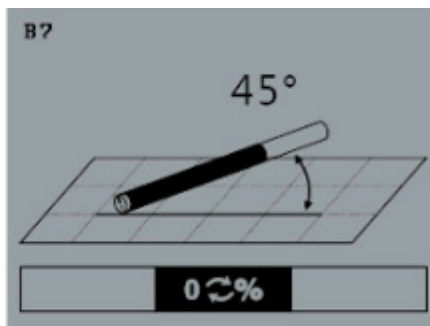
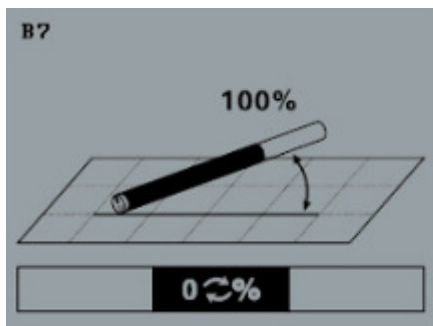
5. Radio registration complete


6. Tap to return to the main page.

### 4.1.3 Pitch unit selection

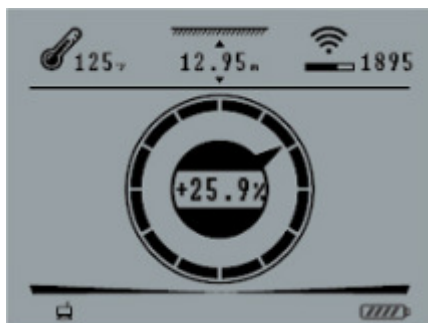



1. Press and hold  to enter the setup page. 2. Tap  to select B7



3. Tap  to enter B7 page

4. Tap  to switch pitch mode.



5. Tap  to return to the main page.

### 4.2 Display maintenance

- The display uses rechargeable lithium batteries. The display will automatically shutoff if there is no key pressed over a time period of 20 minutes or if there is no information received from the transmitter. It is strongly recommended that the batteries are taken out of the receiver if not to be used for a long period of time to avoid potential erosion from a leaking battery.
- The display is an electronic measurement device. Severe shock and impact can damage the housing and the electronics inside the housing. Treat the receiver as a measurement device.
- Keep the display away from excessive heat to avoid damages to the plastic housing and electronics inside the housing.
- Do not submerge the display in excessive amounts of water.

## **4. Battery and Charger**

Mag locators use alkaline C-cell batteries or lithium rechargeable batteries.

This lithium rechargeable battery comes with a special charger. Any use of other lithium rechargeable battery or charger for the receiver may cause fire, explosion, leaking or other damages. Keep the battery at the normal temperature of 15-25 degrees Celsius. Extreme high or low temperatures will short the battery life. Do not submerge the battery in water or any other liquids. Do not throw the battery into fire. Do not disassemble the battery. Avoid any kind of damage to the battery. Do not discard the battery as normal trash. Please dispose of it properly.

When charging the battery, red light of the charger is on. When charging complete, green light will be on. Please place the battery properly as shown in the diagram.

## **5. FCC Statement**

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.

Attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



## 6. Warranty

Underground Magnetics offers standard warranty on parts and labor of the Mag series locating system under normal usage. The warranty period is one year for the receiver and display and six months for the transmitter.

Display antenna information

Antenna	Manufacturer	Model	Antenna Gain	Connector
1	Asian Creation	AC-Q915-L20D	3dBi	RP BNC Male
2	Asian Creation	AC-Q915I08	5dBi	RP BNC Male

For more information, please refer to antenna specification.