

LUCKYSMART®

# LBT-1-GPS OPERATION MANUAL



**BAIT BOAT FISHING FINDER**

**GPS+COMPASS+SONART**

# Preface

Thanks for choosing LUCKYSMART products. In order to operate this product quickly and safely, Please read this manual carefully before operating.

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## Product Statement:

The product is a high-tech device integrating sonar, compass and GPS positioning and other technologies. It is mainly used for remote control bait boats or other small boats. It needs to be installed correctly before it can be used. The performance of the product is greatly affected by environmental and human factors.

Therefore, LUCKYSMART make the following statement:

### 1. Sonar characteristics:

The characteristics of sonar are affected by many factors, such as the installation method of the probe, the current water area situation(the wave size ) etc. If the water depth and bottom contour displayed on the screen are big different from the actual situation, please check the installation of the probe carefully or contact with your local dealer.

### 2. GPS positioning characteristics

GPS (Global Positioning System) is a satellite positioning system controlled by the US government. Under normal circumstances, there will be a certain deviation in domestic use. This is due to the attributes of the GPS system itself and has nothing to do with this product. The GPS positioning accuracy of this product is normally about 2 meters (it can reaches to 1 meter in a good enviroment). However, GPS positioning accuracy is greatly affected by environmental factors. If it is used on cloudy days, foggy days, under large trees, or in non-open areas (with highrise buildings, mountains, etc.), GPS positioning accuracy will be greatly effected.

# Precautions

## 1. Safety precautions

- Do not use this product in harsh environments such as wind, rain, lightning, and high-voltage lines.

## Electronic equipment

- Do not use this device in places where the use of wireless devices is clearly prohibited. otherwise. It may interfere with other electronic equipment or cause other dangers.

## Impact on medical equipment

- In medical and health care establishments where the use of wireless devices is expressly prohibited, please comply with the rule and turn off the equipment.
- The radio waves generated by the equipment may affect implantable medical equipment or personal medical equipment, such as pacemakers, cochlear implants, hearing aids, etc. If you use these medical equipments, please do not use this product.

## 2. Precautions before using the product

- Please check whether all parts of the product are installed correctly, including probes, GPS receivers, antennas, control box, etc. Please refer to the "Installation" part of this manual for the specific installation methods and precautions of each component.
- Please check whether the antennas on the boat are tightened. Antenna slack can affect wireless performance.
- Please check that all parts in the cabin (probe, GPS receiver, antenna extension cord, power cord) are correctly connected with control box (refer to page 10 for the connection method).
- Please make sure that the control box is powered on. After power on, the led indicator at the "link" position will be on for 3s then off, indicating the control box enter the working state.
- Please check the GPS status bar on the device screen after the control box is powered on for 3-5 minutes. Please make sure when use this product, the status bar turn to yellow or blue.

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# Product introduction

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LBT-1-GPS is an electronic product that integrates GPS navigation and sonar systems that is specially used for various remote control bait boats and other small boats.

This product combines sonar, GPS navigation and electronic compass functions. No matter if you are a new hand or a professional angler, It is easy to use this product . This allows you to make precise nesting, navigation and fish detection.

## What can this product do?

After installing this product on the bait boat, you can realize the following functions:

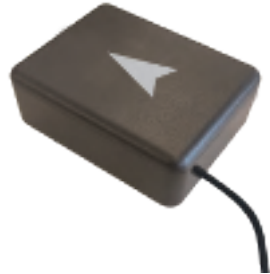
- Real-time observation of the bottom of the boat: including fish (position, depth information, fish group size). weeds, underwater contours, etc.
- Know the distance of the boat from the shore at any time.
- Even if you operate at night or in foggy weather, you can still know the direction of the bow of the boat through the screen.
- Store more than 500 points of interest and load any one of them as a target to navigate your boat to the point of interest precisely. Thus realize the fixed-point nesting function.
- View the longitude and latitude of the current position of the bait boat.
- Monitor the voltage of the boat's battery at any time.

# Product packing list

Device



GPS receiver



1)GPS receiver 2)Double-side tap

Launcher



1)Device power cable-(Dry battery)  
 2)Device power cable-(Storage battery)  
 3)Control box power cable  
 4)Control box  
 5)Antenna extension line  
 6)Control box antenna

Probe



1)Probe 2)Lock knob 3)Rubber sleeve

Note: Different rubber sleeves are matched according to different boat types.

# Installation to bait boat

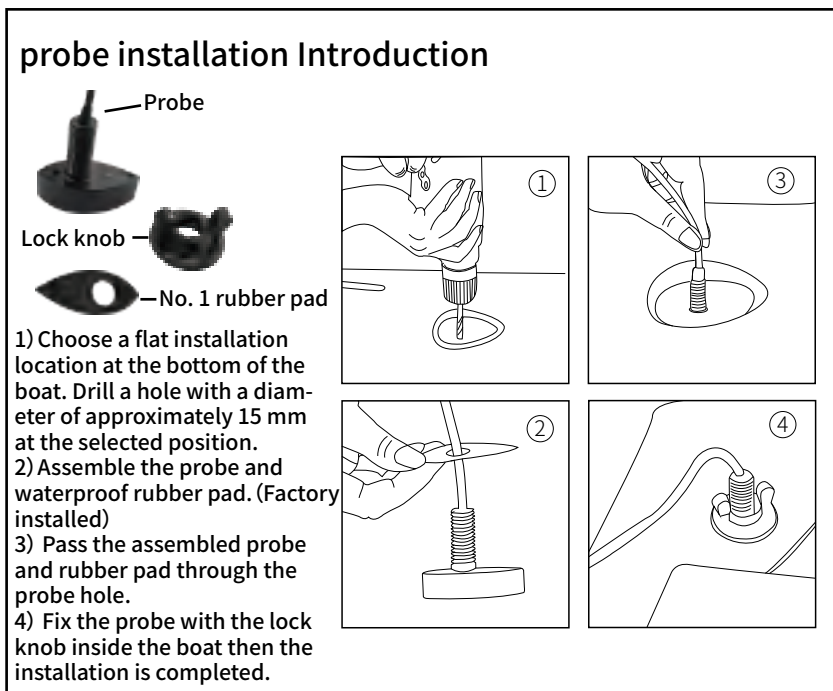
## 1. Install the probe

Warning: Please do not install the probe near the motor of the boat. Otherwise, the electronic noise caused by the motor and the bubbles generated by the propeller will greatly degrade the sonar performance of the product. Generally recommended to install at a distance from the bow of boat that the position of 1/3 of the length of the bait boat. And ensure that the probe draft is not less than 10CM.

Note: For different bait boats, the installation method of the probe is also different. The following is the probe installation guide for different types of bait boats on the market:

### 1) A bait boat without a probe mounting hole in the hull itself

There is no specific probe mounting groove at the bottom of these bait boats. So you need to use tools to punch holes to install the probe on the bottom of the boat. The following is the installation diagram:

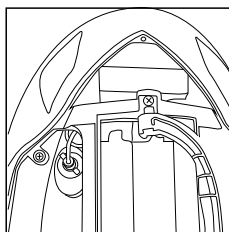
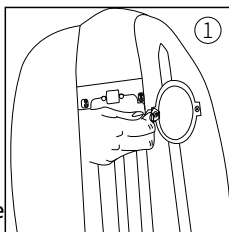




## 2) A bait boat with a groove for installing the probe in the hull (No. 2 rubber sleeve)

There is a groove at the bottom of the bait boat for installing probes. LBT-1-GPS comes with appropriate No. 2 rubber sleeve. The installation steps are basically the same as in 1 above. The only difference is that the probe needs to be covered inside the rubber sleeve, so that it can be fully matched with the probe installation groove reserved on the boat.

### probe installation Introduction

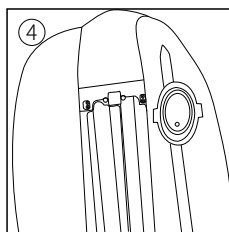
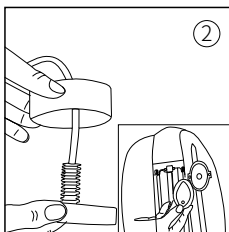


1) Use a screwdriver to remove the probe decorative cover from the bottom of the ship.

2) Assemble the probe and rubber pad, and pass the assembled probe through the probe hole.

3) Tighten the probe with the lock knob inside the boat.

4) The installation is completed.



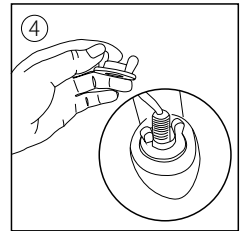
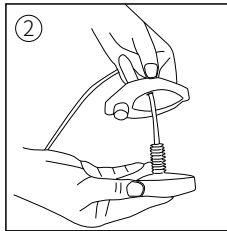
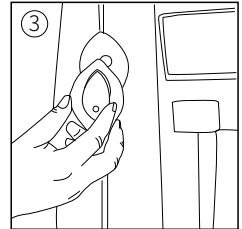
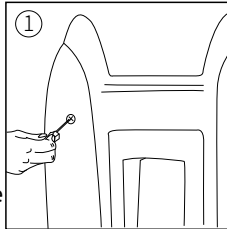
## 3) A bait boat with a groove for installing the probe in the hull (No. 3 rubber sleeve)

There is a groove at the bottom of the bait boat for installing probes. LBT-1-GPS comes with appropriate No. 3 rubber sleeve. The installation steps are basically the same as in 1 above. The only difference is that the probe needs to be covered inside the rubber sleeve, so that it can be fully matched with the probe installation groove reserved on the boat.

# probe installation Introduction



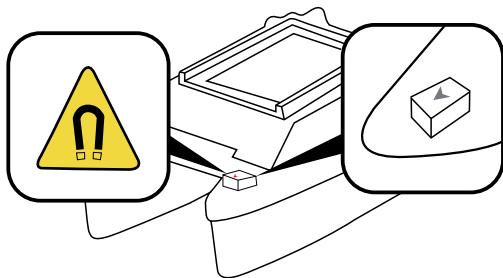
- 1) Use a screwdriver to remove the probe decorative cover from the bottom of the ship.
- 2) Assemble the probe and rubber pad, and pass the assembled probe through the probe hole.
- 3) Tighten the probe with the lock knob inside the boat.
- 4) The installation is completed.



## 2. Install GPS receiver

### Precautions when installing GPS receiver:

- 1) The GPS receiver should be installed far away from other antennas on the boat (including the ship's own antenna and the control box antenna of this product).
- 2) In order to avoid interference with the compass, the GPS receiver should be kept away from any magnetic materials, such as magnets, iron and nickel, etc.
- 3) The gray arrow on the GPS receiver should be consistent with the bow direction.



### How to fixed GPS receiver

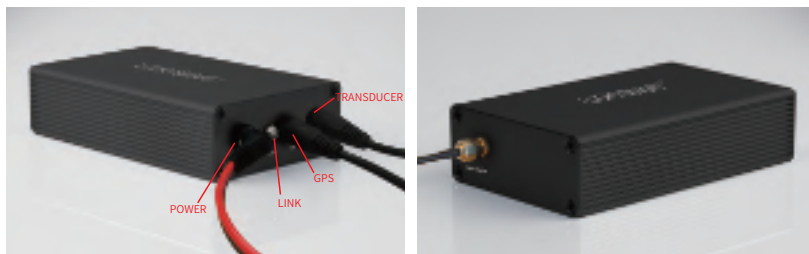
- 1) Choose an appropriate location on the boat (the location is flat, normally fixed on the head of the boat)
- 2) Fix the GPS receiver on the bow with double-sided tape (Note: For LBT-1-GPS, the gray arrow must be consistent with the bow direction).

### 3.Install the antenna of control box

- 1) Find the hole reserved for installing the antenna extension cable at the stern of the bait boat.
- 2) Remove the nut and washer on the antenna extension cable.
- 3) Pass the screw part of the antenna extension cable through the reserved hole from the cabin.
- 4) Put the washer and nut on the screw respectively, and then tighten the nut with a wrench.
- 5) Tighten the control box antenna on the screw (Be sure to tighten it!)

### 4.Connect cable

After the above components are installed, please connect each part to the control box.



- TRANSDUCER: Connect the probe.
- GPS:Connect to GPS receiver.
- POWER:Connect the power cord.
- LINK:Shows whether the connection between the control box and the device is normal.

Note: The LINK light is on last 3 seconds after power on and LINK light will flash after connected with GPS correctly.

- ANTENNA:Connect the antenna extension cable.

The bait boat part has been installed so far.

# Power

	Device power	Control box power
Recommended voltage	10-13V	9.5-13V
Maximum voltage	16.8V	14V

## 1.The device can use 8\*AA batteries or an external power supply.

-When using 8\*AA batteries for power supply, please discharge the batteries correctly according to the schematic diagram on the base of the device.







-When using an external power supply, you can use the standard power cord to connect it to an external power.



## 2.The control box can be powered by the boat's battery or an external power.

Warning: Excessive voltage may cause the internal electronic components of the product device or control box to burn out. Make sure to turn off the power of the control box after use.

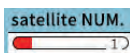
The following are the voltage of commonly used batteries for your reference:

Battery type	voltage	Is it allowed to use		
12V lead-acid batteries	10.8V~14.8V	✓	12V lead-acid batteries	2S lithium battery
8*AA Ni-MH batteries	7.8V~10.6V	✗		
8*AA alkaline batteries	7.5V~12.8V	✓		
2S lithium battery	5.6V~8.4V	✗		
3S lithium battery	8.4V~12.6V	✓		
4S lithium battery	11.2V~16.8V	✓		

# How to use

## Precaution

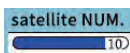
Please use this product when the satellite status bar shows yellow or blue (meaning the GPS signal is strong enough)



Red: 0-3 satellites



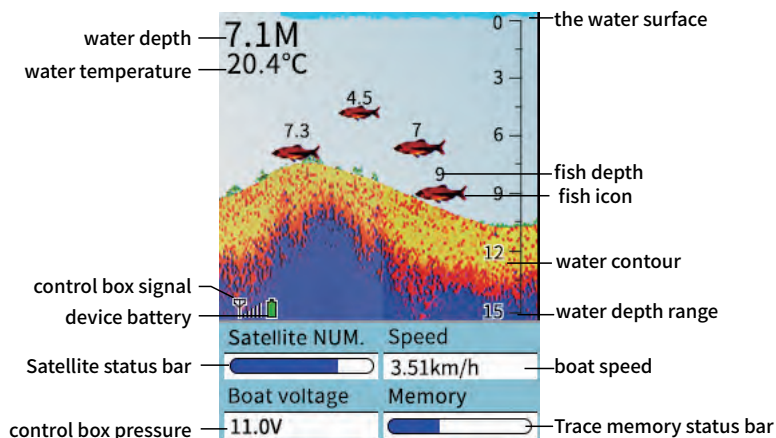
Yellow: 4-6 satellites

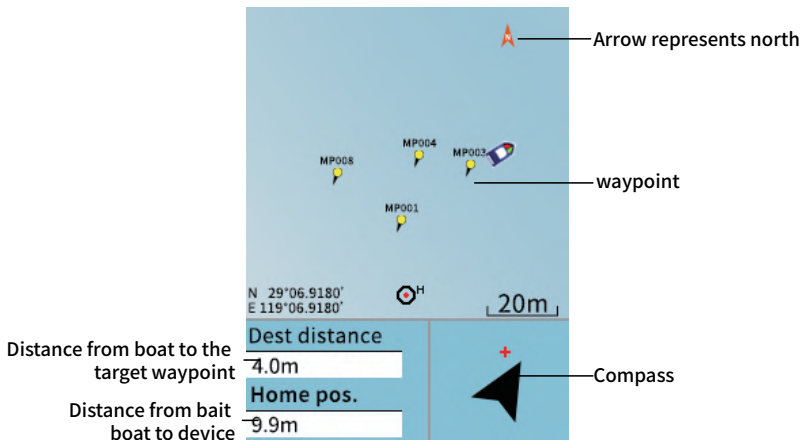


Blue: more than 6 satellites

Note: If the number of satellites column all turn blue, it means that the product has received signals from 12 satellites. So from the change of the color bar, you can know how many satellites can be received. Generally speaking, more than 6 satellites (yellow) GPS can work normally.

## Screen display description





## Compass

GPS receivers have a built-in electronic compass system. When you correctly install the GPS receiver on the boat, you can know the heading of the bow at any time by observing the pointer of the electronic compass on the screen. So even if the boat travels a long distance (200 meters away, it is out of your sight), or it can control the trajectory of the boat at any time in harsh environments such as night and fog, and accurately remotely control it to come back.

Note: When observing the compass direction, you can imagine that the device screen is parallel to the horizontal plane placed so that it is easy to understand the consistency of the bow direction and the compass needle direction on the screen.

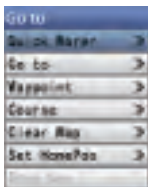


Note: For electronic compass,  $\pm 15$  degrees is the allowable error range. So while the boat is moving, if you find a small deviation between the compass needle direction and the bow direction, this is normal.

# Key operation

## Menu key/Power key

- 1) Power on/off
- 2) Menu selection



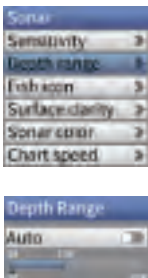
## Return key

Return to the previous menu



## Arrow key

- 1) Move to select an option
- 2) Increase or decrease option value



## Confirm key

- 1) Complete menu selection
- 2) Confirm settings



## Zoom in/out key

Used to zoom in or zoom out the GPS track map





# Go to

## Waypoint navigation

The waypoint refers to the location that the fisherman prefers personally in a certain fishing area. These points may be the usual make bait, may also be judged where there are more fish based on past experience. Or a place where big fish often haunt, etc. This product can save these points, and you can pick one of them as the navigation point at any time in the future, and then navigate the bait boat to that point. This product can store up to 500 waypoints.

### How to create a waypoint

When the boat reaches a certain point, keep the boat still:

- 1) Press the MENU button, the [Go to] menu appears.
- 2) Then select [Quick Mark], press ENTER to display Waypoint details.
- 3) After setting the waypoint, select [OK] and press ENTER then the current position of the boat is created as a waypoint.



### How to set a waypoint as a target point

- 1) Enter the [Go to] menu, press the MENU button to select [GO to], then press ENTER to enter [Waypoint List].
- 2) In this list, select a waypoint and press ENTER key to confirm. This waypoint is set as the current goal point.

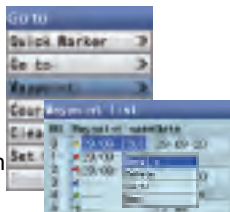


Note: When a waypoint is successfully set as the target point, a red "+" symbol will be displayed in the compass area on the screen to represent the current target point.



### How to set the name and icon of the waypoint

- 1) In the [Go To] menu, select [Waypoint ] and press ENTER key to enter [Waypoint List].
- 2) Select the point you want to modify in the name position and press ENTER, Select [Details] and press ENTER to enter the waypoint [Details]. Select [Edit] and press ENTER to edit, In order to distinguish the waypoints. You can set different icons, Name etc.



# How to know the distance of the boat from the shore and the target point

You can see an option [Home pos.] on the display.

This option represents the distance from the boat to the origin.

Note: This product defaults to the point of origin when the GPS receiver is powered on. Therefore, if you turn on the GPS receiver on the shore, the [Home pos.] represents the distance that the boat leaves the shore.

You can set any point as the origin.

The option [Dest Distance] represents the distance between the boat and the target point.



## How to set a point as the origin

1) In the [Go to] menu, select [Set Homepos] and press ENTER key. Now the boat's location is successfully set.

So the option [Home pos.] displayed on the screen indicates the distance of the boat from the current position



# Route navigation

[List of all saved tracks.](#)

## How to create a new route

1) When the boat sails for a certain distance from the origin, you can observe the corresponding track on the screen. At this time, you can choose to save this track as a route:

1) Press the MENU button to enter the [Go To] menu, select [Course] and press the ENTER button to enter the [Route List].

2) Choose a name at will, press ENTER to select New, the new route is created successfully. The newly created routes are saved in the route list.



## How to load the route as the target point

1) Enter the [Go To] menu, select [Course] and press ENTER to enter the [Route List].

2) In the list that appears, select a route, and then press the ENTER key, then select [Go home] or [Go target], press the ENTER key, and this route will be set as the current target point.



## Clear Map

Used to clear the track map off the boat on the screen.



## Stop navigation

When you choose to stop navigation, the Red Cross arrow disappears from the screen.

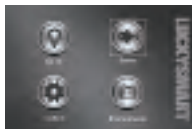


# Menu operation

## Sonar settings

### Sensitivity

Sensitivity is the sonar intensity. The stronger the sensitivity, the more sonar signals will be returned and displayed on the screen, and the more sensitive feedback from the underwater situation will be. But if the water is very shallow, too high sensitivity will also increase the reflected sound wave signal too much, resulting in the wrong signal being displayed. If the sensitivity is set too low in a deep water environment, it will be difficult to detect the corresponding underwater signal. Operation suggestion: In the case of deep water, increase the sensitivity; In the case of shallow water, lower the sensitivity.



### Depth range

For example: the current depth is 20 meters, and you only need the fish information from 10 meters to 18 meters, you only need to set the lower limit of depth to 18 meters and the upper limit of depth to 10 meters, then only 10 meters to 18 meters fish information will be displayed on the screen.



### Fish icon

Press the menu key until the fish icon menu is displayed. The fish icon function is to use advanced signal processing methods to distinguish and process the returned sound waves, so the information of the detected fish will be accurate to be displayed on the screen. You can choose to turn on or turn off the fish icon.



### Surface clarity

When the sonar is just launched, the closer the distance, the stronger the energy. And the stronger the detection ability to small objects. This causes the interference of the water surface to affect the normal detection, and the surface clarity function reduces the water surface the impact of normal detection.



## Sonar color

The sonar color is used to change the display color of the sonar image, which can better distinguish underwater, fish, etc. Sonar colors are available in red, blue and gray.



## Chart speed

Set the frequency of sonar data sampling.

Note: The more frequently the sonar data is collected, the more accurate the underwater situation displayed on the screen. However, too much data will cause the system to respond slowly.



# System

## Language

Language setting is to switch the languages of different countries. Under this menu, you can choose your preferred language (Chinese and English 2 languages).



## Backlight

The backlight is to adjust the screen brightness.



## Alarm

### Fish alarm

Fish alarm refers to the alarm set when different fish icons appear. You can choose to turn off the fish alarm, or select the large, medium and small fish alarm. When you only need to make an alarm for the large fish, just set the large fish alarm. However, the prerequisite for the function of the fish alarm is that the detected fish situation can be alarmed only after the fish icon is turned on.



### Shallow alarm

Shallow alarm is generally set to prevent stranding. When the actually measured water depth is lower than the set value, the fish finder will make an alarm to remind you that the current water depth is too shallow.



## Arrival alarm

Arrival alarm means that when the distance between the boat and the target point is less than or equal to the preset value, the device will make an alarm. At the same time, a prompt message will be displayed on the screen: "Approaching the target position".



The default alarm radius is 5 meters. This means that when the boat is less than or equal to 5 meters from the target point, the fish finder will make an alarm.



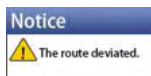
In order to obtain a more precise positioning from the target point, you can set it to a smaller value, for example: 2 meters or even 1 meter.

Note: The smaller the value, the higher the navigation accuracy, and the boat will be closer to the target point. But if currently the GPS satellite signal strength is not enough and the value is too small (for example 1 meter), the boat cannot find the target point. Therefore the red target point on the screen will always "drift" in the compass display area.



## Offcourse

Offcourse means that when the boat deviates from the preset route, the device will make an alarm. At the same time, a prompt message will be displayed on the screen: "The route deviated".



## Main voltage

When the main device power supply voltage is lower than the set value, the fish finder will make an alarm.

For different batteries, we recommend the following settings:

Battery	Suggest setting
8*AA dry batteries	7.5V
14.8V (3S) lithium battery	12.0V
12V lead-acid battery	10.5V

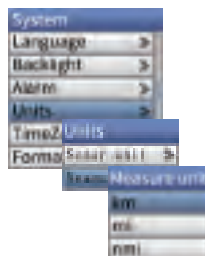
## Boat voltage

When the boat's battery is used to power the control box, the voltage value in the lower left corner of the display represents the voltage value of the boat's battery. When the voltage is lower than the set value, the fish finder will make an alarm. Once the alarm occurs, the battery needs to be charged in time, and overuse will affect the battery's service life.

## Units

### Measure unit

Set all measurement units related to distance.





## Sonar unit

Set the unit of depth and temperature.



## Timezone

Please choose a different time zone in different countries (regions),

For example:

China: 8

Germany, France, Netherlands, Italy, Poland: 1

Bulgaria, Romania, Ukraine, Greece: 2

Russia: 3

For more time zone, please refer to:

<http://www.worldtimezone.com>



## Format

Set the unit used to determine latitude and longitude.



## Direction setting

Used to set to point north up or bow up

## Factory set

Factory set is restored to the factory settings, such as backlight, sonar settings, etc., it will be restored to the original appearance of the device, and all setting parameters will be cleared.

## About

Display the version information of the purchased product.

# Common problems and solutions

Problems	Solutions
Screen display : "Please turn on the sensor"	1)Please turn on the sensor first, and then turn on the device. Otherwise, this message will be displayed on the screen. 2)Please ensure that the radio environment is in good condition. Too close to WIFI Bluetooth devices, or too noisy R/C controller may cause the wireless transmission distance to be shorter.
The device loses signal within 20 meters. Screen display:"No signal"	1)Please make sure that the antenna and the control box are connected properly and the antenna is in good contact. 2)Please ensure that the radio environment is in good condition. Too close to WIFI Bluetooth devices, or too noisy R/C controller may cause the wireless transmission distance to be shorter.
Inaccuracy of GPS positioning	1)The positioning accuracy of GPS depends on satellite signals. In harsh environments such as cloudy, rainy, or foggy, satellite signals may become weaker. Also make sure to use this product with a bait boat on open waters outdoors. During operation, do not place this product under a bridge, under a tree, etc., which may affect the GPS positioning accuracy. 2)If your boat is stationary on the surface of the water, the position coordinates may drift. The error accuracy of GPS may reach 15 meters or even more. However, if your boat is moving at 0.5 m/s or faster, the positioning accuracy will become better. 3)Please ensure that the GPS receiver installed on the boat is at least 30 cm away from any other antennas. 4)In some countries or regions, in consideration of national security, local governments may take some measures to interfere with GPS satellite signals. Therefore, GPS coordinate offsets may be different in different regions or time periods.

Problems	Solutions
<p>The compass does not indicate the right direction</p>	<p>1)The compass will malfunction due to magnetic materials. Therefore, when installing the GPS receiver, keep away from the following magnetic materials: magnets, iron, nickel, etc. The distance is recommended to exceed 30 cm.</p> <p>2)The accuracy of the electronic compass is usually within the range of + / -15 degrees. Therefore, under normal circumstances, the compass will have a small error, which is normal.</p> <p>Update the GPS data of the boat's direction to 2 Hz (twice per second). If the boat turns too fast, there may be a short delay in the compass direction displayed on the screen.</p>
<p>Sonar image is blurry and messy</p>	<p>1)The sensor (probe) should be installed on the boat away from any devices that may generate bubbles, such as engines and propellers. We recommend that the sensor be installed one-third (hull length) from the bow of the boat</p> <p>2)Bubbles are the main source of interference from all sonar equipment. Therefore, the deeper the draft of the sensor, the better. The sensor should have a draft of at least 15cm above the water surface.</p> <p>If the draft of the sensor is less than 15cm, the fluctuating water surface will affect the sonar image quality. At this time, the sensitivity can be moderately adjusted to level 4-6.</p>

Problems	Solutions
No fish detected (Clear that there are fish in the water)	All sonar equipment has 2 blind spots. A blind spot is 0.5 meters down from the surface of the water. Another blind spot is 0.3 meters from the bottom of the water. If the fish is in the blind spot, the fish finder is difficult to detect. Therefore, if the water is too shallow, most of the fish are in the blind spot. Therefore, in order to obtain a better fish detection effect, we recommend that you use this product in waters not less than 1.5 meters.
There is no depth reading on the screen when the water depth exceeds 60 meters	<p>1) The oil, dirt, etc. floating on the water surface will form a film on the bottom of the probe, thereby reducing its detection effectiveness. Please clean the surface of the probe with a clean soft cloth (preferably dipped in some alcohol).</p> <p>2) Its detection capability can theoretically reach 60 meters. However, it depends on the conditions of the water bottom. For example, a lot of silt at the bottom will cause weak echo signals and reduce its detection ability.</p>
Why need the compass function? Isn't that enough with GPS navigation function ?	<p>1)When the boat travels far (200 meters away), or at night, foggy weather, etc., you will not be able to see the direction of the bow. With the compass function, you can clearly know the direction of the bow on the screen, so you can navigate it back accurately.</p> <p>2)If the speed of the boat is less than 0.6 m/s, the heading direction provided by the GPS data will be wrong. When the ship approaches the target point with very slowly speed, only GPS with compass function can accurately control the ship to reach the target location.</p> <p>With the help of a compass, you can even accurately observe the heading direction of the boat when the boat is moving slowly.</p>

## Product Specification

GPS and wireless functions	GPS positioning accuracy	Circular error probability: 2.5m
		Actual measurement accuracy: 1.0m
	Waypoint	500
	Track	30
	Wireless frequency	433MHz
	Wireless operating range	300m
	Show boat speed	Yes
	Show latitude and longitude	Yes
	Satellite	50 channels
		Update rate: 1 second
Hot start <1 second (in open environment)		
Cold start <48 seconds (in open environment)		
Digital Sonar Section	Sonar frequency	125Khz
	Detect capacity	60m
	Sonar angle	90°
Electronic compass	Compass built-in GPS	Yes
Power	Device power	10~13v
	Control box power	Can be powered by the boat's own batter 9.5~13v
Display part	Display size	3.5-inch TFT high-definition color display; visible in sunligh
	Resolution	480*320 pixels; 65,536 colors
	Chinese menu	Yes
Others	Sonar device size	130X130X30mm
	Portable base size	230X195X100mm

## Product Specification

Others	GPS receiver cable length	0.7m
	Probe cable length	0.6m
	Operating temperature range	-10°~ 50°C
GPS and compass	GPS data display	The following data can be displayed: distance to the target point, distance to the origin, boat speed, time to reach the target, number of satellites, azimuth, angle, track memory, date, device voltage, etc.
		The electronic compass visually displays the real-time course of the boat.
		The red "+" displayed on the screen represents the target point of the current navigation.
		Show the distance of the boat from the target point and the origin (shore).
		Boat arrival alarm (you can set how far the boat from the target point to make alarm ).
		No signal alarm.
		Satellite status bar shows the number of satellites received.
		Red (0~3); Yellow (4~6); Blue (more than 6).
		Can display the latitude and longitude of the current point of the boat.
		Various information of waypoints can be customized, including symbols, dates, names, depths, etc.
	Track display zoom in/out function.	
Digital Sonar Section		Adopt brand new digital wireless sonar technology. The detection accuracy is greatly improved than traditional sonar. Can accurately detect underwater fish (including bottom fish), water plants, stones, potholes and other information.
		Real-time sonar window displays the latest sonar information.

## Product Specification

Digital Sonar Section	The fish shape recognition function can define the display level of the fish school size, so as to meet the purpose of fishing friends to catch only big fish or only small fish.
	The detected fish-shaped symbol can visually display the depth position of the fish. This is helpful for anglers to judge the middle fish or bottom fish.
	Alarm mode: fish alarm/shallow alarm/low voltage alarm.
	Three background display colors.
	Built-in water temperature sensor can display water temperature.
Others	Windows menu style, intuitive and easy to operate.
	1 year warranty

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