

v1.0 Quick Start Guide

# BIKI



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The company was founded in Sep. 2015, mainly engaged in the technology development of underwater robot as well as product sales business. We have developed a variety of underwater robots. The products that designed for consumer-used and business-used have been launched. In Nov. 2016, the business-oriented hybrid energy underwater robot came out; business-relationships have been established with government departments, including a military industry as well as the Waterway Transportation Sector of the Ministry of Communications.

BIKI - the brand new consumer-oriented product was launched in May 2017. Not only has it raised more than 200,000US Dollars through crowdfunding, but also attracted the first users from over 40 countries and regions.



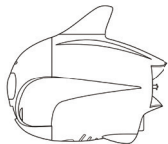
# PART 1

# 1. Checklist

Please check if every item on the list is included in the package before use. Please contact the dealer if anything is missing.

The images are indicative only. The actual product may differ.

BIKI



Caudal Fin



Wiping Cloth



Controller



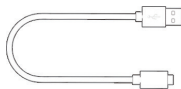
Charger



Documents



Data Cable



Tether



## 2. Notes

### Notes for Novices

1. DO NOT switch on/off the BIKI when it's in the water.
2. Please keep the BIKI in sight during the application to avoid unnecessary loss.
3. Please use the product in good light.
4. This product is for underwater use only. Long-duration out-of-water use is not recommended.
5. Please be careful and safe when playing in the water and pay attention to your personal safety and property.

6. Please respect other people's privacy when taking a shot with this product. Particularly the use in public places such as swimming pool or bath room where the privacy of others may get compromised.
7. Please read through the Quick Start and watch the "Guide for the Novices" in App to better understand how to use the product as well as the do's and don'ts.
8. Please disconnect BIKI from Wi-Fi and connect to other networks before sharing photograph to social media.
9. Do Not recharge it until the pilot light is off when the power is cut off during charging.

## Requirements on Operational Environment

1. Please use it in the areas where the depth of water is above 20cm;
2. Recommended application depth is less than 60m;
3. DO NOT use it in open water or water area where the current is turbulent;
4. Please use it in the area where the water is smooth, open-sided with less water plant and weed;
5. DO NOT use it in turbulent current, heavy storm waves and such hostile conditions;
6. Please use it in water temperature of 0-50 °C ;
7. Please make sure the flow is stable and not so many obstacles are in the way before customizing the path;
8. Please put the product in cool and dry place, and keep it away from combustibles and explosive materials.

## Before use, please check

1. If the battery of the BIKI/controller/mobile device is fresh;
2. If the caudal fin is properly fixed;
3. If the charging ports both on the BIKI and controller have been filled tightly with the rubber plugs. (**Caution: fail to block the ports with the rubber plugs will lead to water damage thus bring trouble to the battery module and lost the warranty**);
4. If the tail stays in the middle after power-on;
5. If the mobile device has connected to specified Wi-Fi and works well;

6.If the application environment in compliance with the environment requirements.

## 3.Disclaimer

Thanks for choosing RoboSea. To obtain the best performance, please read through this statement which involves your legal rights & interests and the proper ways of using the product. It shall be deemed that you have understood, acknowledged and accepted all the terms and conditions of the statement as long as you start using the product.

You shall be responsible for your actions and the consequences arising therefrom. You shall use the product for proper purposes and agree to this term and any other relevant policies or guidelines developed by RoboSea. RoboSea shall not be liable and responsible for any personal injuries or property losses, whether direct or indirect, resulted from the actions or operations that are not carried out in accordance with this safety guide. The users shall understand and perform in light of this statement, including but limited to.

## 4.Escape Clauses

**RoboSea reserves all right of interpretation of these clauses and shall not take liabilities for the consequences resulted from following cases:**

- 1.Fail to carefully read the User's Manual and news officially released by RoboSea. And any operations and installations that are carried out without reference to the manual;
- 2.Any damages arising from operations that are performed in poor physical/mental condition such as being drunk, on drugs, feel dizzy or sick;
- 3.Those arising from misconduct or misjudgment;
- 4.Any injuries or product damages resulted from force majeure such as shocks, fire, explosion, flood, earthquake, and any accident which is caused by the act of God.



5. Tampering with the App or the BIKI's software code without authorization;
6. The applications in sensitive areas or in the neighborhood of industrial facilities;
7. Improper keepings such as being placed in places where it might suffer a collision or get squeezed;
8. There are obvious indications that the BIKI or battery functions abnormally. Fail to check or recognize before use or during the application, the abnormalities therefore remain undetected. Or the product is still being used regardless of the failure that has been detected;
9. Any injuries or damages caused by the incorrect use of the battery; or malfunction caused by coming into contact with sharp objects or shocks;
10. Product damages caused by press or external force while carrying it;
11. Misfunction caused by its natural wear and tear, corrosion or wire aging;
12. Losses or legal liabilities, whether direct or indirect, caused by the application of device, fittings or APP. Unable to save image/video, for example;
13. Tort liabilities caused by any data, sounds or videos captured with BIKI and its APP;
14. The users fail to abide by local regulations and laws;
15. Losses or damages arising from any other cases are not within the RoboSea's responsibility.

## 5. Warnings

1. Please use the battery and charger supplied by RoboSea. Otherwise, damage might be caused to BIKI;
2. To prevent potential risk and injury, underage children shall use the product or fittings in the company of their parents;

3. DO NOT use the product to engage in following activities (including but not limited to);

-Infringe upon the lawful civil rights such as right of privacy and right of publicity by slander, harassing, misuse, threat, spying or any other ways;

-DO NOT take a shot of someone or film in personal area without permission;

-Any application that is improper or illegal such as activities in terms of survey, investigation, spy or military without authorization;

-Activities that are against any laws, regulations, public order and customs of regions in where the product is used;

4. DO NOT put the product and any of its parts into mouth to avoid personal injury;

5. DO NOT take the product apart in any way;

6. DO NOT put the product in microwave or pressure container;

7. DO NOT use the product when the temperature is too high (above 50 °C);

8. Keep it away from the heating source such as fire or heater when charging to avoid personal injuries or fire disaster.

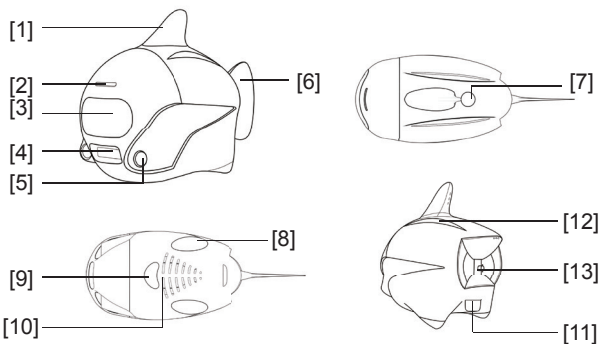


# PART 2

# 1. Who is BIKI

BIKI, a consumer-used RoboFish launched by RoboSea, is built on the basis of bionics and hydromechanics theory, with the box fish native to reef zone as its design model. The power of BIKI is produced by the bionic caudal fin; its streamlined body is small and cute. Not only is BIKI capable of taking photos/videos in the water, it's also featured with tech highlights such as modularized design, smart obstacle-avoidance, eccentric pan & tilt head and GPS return-to-base.

## Learn about BIKI's construction



- |                          |                                    |
|--------------------------|------------------------------------|
| [1] Dorsal Fin (Antenna) | [7] Power Switch                   |
| [2] Pilot Light          | [8] Pad1                           |
| [3] Camera               | [9] Pad2                           |
| [4] Infrared Sensor      | [10] Discharge Port 1              |
| [5] Spotlight            | [11] Rubber Plug for Charging Port |
| [6] Caudal Fin           | [12] Discharge Port 2              |
|                          | [13] Tail Connecting Link          |

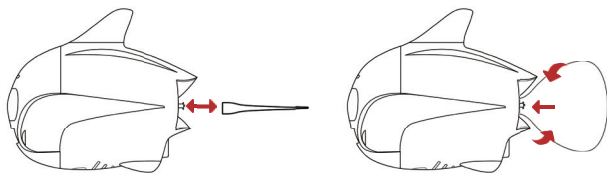
# How to Fix/Remove the Caudal Fin

The removable design of the caudal fin makes BIKI portable.



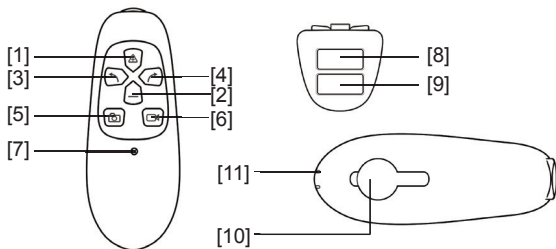
## CAUTION:

Please make sure BIKI is powered off when fixing/removing the caudal fin.



1. To fix it, please fit the caudal fin to the tail connecting link, push it in and rotate it in any direction by 90°.
2. To remove it, please push the caudal fin in, rotate it by 90° and take it out.

## 2. About the Controller




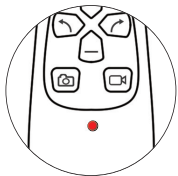
- |                                    |                        |                   |
|------------------------------------|------------------------|-------------------|
| [1] Wakeup/Speedup                 | [6] Start/Stop Filming |                   |
| [2] Slowdown                       | [7] Pilot Light        | [10] Rubber Plug  |
| [3] Turn Left                      | [8] Go Up              | for Charging Port |
| [4] Turn Right                     | [9] Go Down            | [11] Rope Hole    |
| [5] Camera/Turn On/Adjust/Turn Off |                        |                   |

## How to use the remote control

While in the water, the remote control gives out sound wave signal by the built-in acoustic transducer. BIKI moves according to the signals it received from the remote control. Communication medium: water; communication means: sound wave; ultrasound wave: 27kHz, within the civil-used frequency band.

## The Sleep-Mode

The controller uses the mechanical switch. When not in use for 5mins, it will go into sleep mode (**red light flicks once**). Long press “” till blue light flickers twice to activate the controller.



## Anti-lost feature









BIKI might fall outside the sonar range when moving in the water, thus lost contact. To lower the losing probability, the anti-lost feature is developed. BIKI will automatically stop moving and will head above the surface to wait for further order if there's no operational command comes from the remote control within 15secs.

## How to Operate the Controller



### CAUTION:

1. Please deactivate Sleep-Mode before use.
2. When use the remote control, please make sure it in the same media with BIKI.

1. Getting BIKI move by clicking “”;
2. “” is used for turning left , “” is used for turning right. To make it go straight again by releasing “” or “” button;
3. There are five speed options, the speed changes each time “” or “” is pressed;
4. Long press “Go Up” or “Go Down” key BIKI will keep moving accordingly. Releasing the key it will move along at depth where it is now;
5. Please carry out “Go Up” or “Go Down” order when BIKI is moving straight;
6. Long press “” to “turn on/off/adjust” the spotlight. There are low and high options for spotlight.

## 3.About the APP

RoboSea APP is exclusively designed for BIKI, which is capable of BIKI's motion control, path customization, photo/video capturing, photo editing, share feature and so on.

## APP Download

Before use the product, please download and install the RoboSea App by downloading it from APP Store/ Google Play.



RoboSea APP support Android 4.3 and upwards/ iOS 9.0 and upwards.

## About the Main Screen



- |                 |                              |                   |
|-----------------|------------------------------|-------------------|
| [1] Memory Path | [7] Camera/Film              |                   |
| [2] Return      | [8] Camera/Film Switch       |                   |
| [3] Floodlight  | [9] Slowdown                 | [12] satellite(s) |
| [4] Joystick    | [10] Speed Up                |                   |
| [5] Settings    | [11] Real-Time Control/Route |                   |
| [6] Album       | Customizing Switch           |                   |

## 4.About the Battery

The running time of BIKI can last 90-120mins thanks to its 3180mAh high storage battery. DO NOT replace the battery.

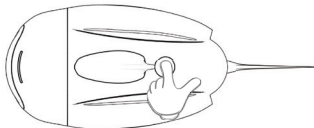


**CAUTION:**  
The battery life varies by the settings and the operation.

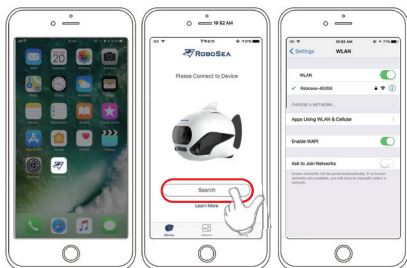


# 5.How to Connect BIKI to APP

- 1 Keep holding the power key until blue light turns on, and then wait for the WIFI to start up.



- 2 Use mobile device to search for BIKI's Wi-Fi signal and get connected to it. The initial password is **1234567890**.



- 3 Click "OK" once the password is entered, it will jump to the real-time control screen and the connection is completed.



- 4 Please disconnect the App before shutdown; quit the App and long-press the power key until the pilot light turns off.

## 6.About the APP Features

### Memory Path

Click “📍” and the system will automatically memorize its moving path on the water; click “⏸” to stop recording and save path; click “↺” to re-operate the previous saved path; click “📍” to start memorizing a new path.

### Smart Return-to-Base

Return to base with one key: When the WI-FI connection works properly and GPS signal is good, with one key, BIKI is able to plan path by itself and return to user's location. If four or more satellites are found on the real-time page, click “📶” to receive GPS at real-time. BIKI is ready to return when it prompts “return-to-base is good to go”.

Return to base when unconnected: The system, when BIKI is disconnected from Wi-Fi and GPS signal is good, will deem that BIKI is lost. And this time, BIKI will return to the base according to the latest recorded GPS. Fail to click “📶” after startup, BIKI will mark the spot from where it goes into the water as original location as default.



**CAUTION:**  
GPS is only available for outdoor use. It can be better performed when weather condition is good.

### Floodlight

There are two lumens on the head of BIKI which are equipped for producing light while capturing photo/film in the water. There are two options (high/low). Click “💡” on the real-time control page to turn on the spotlight. “💡” refers to low light while “💡” to high light.


### Camera/Film



The built-in 16 mega pixels camera with a large aperture of  $f2.0$  is capable of capturing 4K/30fps videos and taking photographs with 16 mega pixels.

Camera: click “🔘” and change it to “🔘” then click “📷” to capture photograph.

Film: click “


## Review & Share

Click “

The downloaded photographs can be reviewed in the photo album on the home page. Click the photograph to review. Click “

**CAUTION:**  
Please disconnect BIKI's Wi-Fi before uploading and get connected to other networks.

## Settings

Customize BIKI's settings in “

Device info: the name and password of the Wi-Fi can be modified in this section.

Barcode on the unit: is for serial number check.

Activate/deactivate acoustic control or smart obstacle avoidance: when delivery, the acoustic control is ON while the smart obstacle avoidance function is OFF. You can modify the settings as needed.

Calibration: Calibration is required (please put BIKI on a flat and level place, click “confirm” to calibrate. Calibration begins when head light keeps flickering) when BIKI shows abnormalities in the water such as leaning to one side, turning upwards, or keeping turning round on the way back to the base, unable to return to the original point. Fail to do calibration BIKI may work with incorrect posture, thus influence the experience of the product. Moreover, long-time leaving it uncalibrated will do a greater influence to BIKI.

Pixels switching: the default resolution is 8 mega pixels. You can switch it to 16 mega pixels maximum (the higher pixel the image is, the more memory space it will occupy) to take photograph.

Switch video resolution: BIKI is able to shoot 30frame/sec 4K high-definition video. Before filming, user is able to switch resolution options.

The capacity of the memory card: it can show the total capacity and available capacity.

Format: remove all the data in the memory card.

## Modify Wi-Fi Name and Password

1. Click “device info” in “⚙️” section, then put the new name and password in, and click “complete”. As the updated info is not in accordance with the existing one, the Wi-Fi will get disconnected and the APP will jump to the network page.
2. Click “” on home page, and get connected to the Wi-Fi with updated name.
3. Once Wi-Fi connection is completed, it will jump to the real-time control page which means the Wi-Fi is well-connected.

## Smart Obstacle-Avoidance

The built-in infrared sensor is capable of sensing obstacles 7-35cm away, thus effectively reduce the risk of collisions when operated in some complex environment. You can turn on/off the smart obstacle-avoidance feature in “⚙️” section.



### CAUTION:

this feature may fail to perform normally in turbid water areas, thus cause the malfunction. Please turn this feature off before put it in the water.

## Path Customizing

this feature can be found in the “Draw a route” drop-down list on the real-time control page. With this feature, BIKI can move as the path planned in advance. During this process, BIKI will capture HD video and save it into the memory and you can check the video when the process is complete or review it in the photo album.

### How to Use It

1. Choose the paths in the system or plan the path by yourself. To customize the path, you need to use one continuous line to make any kind of graph in the drawing zone. Once it's done, you can choose to save it.
2. Put in a diving depth which is available from 0-6000cm.

## Out-of-Limit Check

This feature is usually being used during “path customizing”. When the given depth is above the actual depth, BIKI will go up automatically as long as it comes to the limit and will get the actual data back to the APP.

# 7. Appendix Indicator Status Indicator

NORMAL	
Powered On/During Application	Blue Light Always
PROMPTING	
Taking Photography	Light Flickers Once
Filming	Light Keeps Flashing
Calibrating	Light Keeps Flashing
WARNING	
Battery Low	Red Light Always
CHARGING STATE	
Charging	Red Light Always
Charging Complete	Green Light Always

## Status Indicator

NORMAL	
Not-In-Use	No Light
Press Once	Blue Light Flickers Once
Keep Pressing	Blue Light Keeps Flashing
CHARING STATE	
Charging	Red Light Always
Charging Complete	Green Light Always



**CAUTION:**

- 1.The color of the indicator refers to the battery capacity, the flicker of light refers to the different state.
- 2.Do Not recharge it until the pilot light is off when the power is cut off during charging.

# 8.Specification

<b>BIKI V1.0</b>			
Product Name	Bionics Robo Fish	Spotlight	114Lm*2
Model	BIKI V1.0	Battery Capacity	3180mAh
Dimension	272mm*110mm*181mm	Battery Life	90-120min
Weight	1.2KG	Recommended Operating Depth	Within 60m
Camera	16 mega-pixels/4K video	Maxi Moving Speed	0.5m/s
WIFI Efficiency	Hisi 2.4GHZ Repeater 2.4GHZ	Antenna Gain	Hisi 1.6dbm Repeater 2.5dbm
WIFI power	Hisi 6dbm Repeater 14dbm	Use distance	Over 20cm
Frequency range	2437MHz		
Applicable system	Android 4.3 and upwards/ iOS 9.0 and upwards		
<b>The Controller</b>			
Product Name	Controller	Battery Life	90-120min
Weight	78g	Recommended Operating Depth	Within 30m



# FCC

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.
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment 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 equipment 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 equipment 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.

At least 20cm away from the human body.



[www.robossea.org](http://www.robossea.org)