

USER MANUAL
V 1.1

Compatible with GoPro®

HERO5

Black, Session™
& HERO4, 3+, 3,
Session™

S1

Smartest Gimbal Stabilizer for GoPro®

REMOVU®

TABLE OF CONTENTS

1. Parts	3
2. Getting Started	6
3. Gimbal Mode	10
4. How to use the Remote Control	12
5. Calibration of Gimbal	13
6. How to use Low Angle	14
7. Firmware Upgrade	15
8. Technical Specs	15
9. Safety Instructions	16
10. Warranty Information	18

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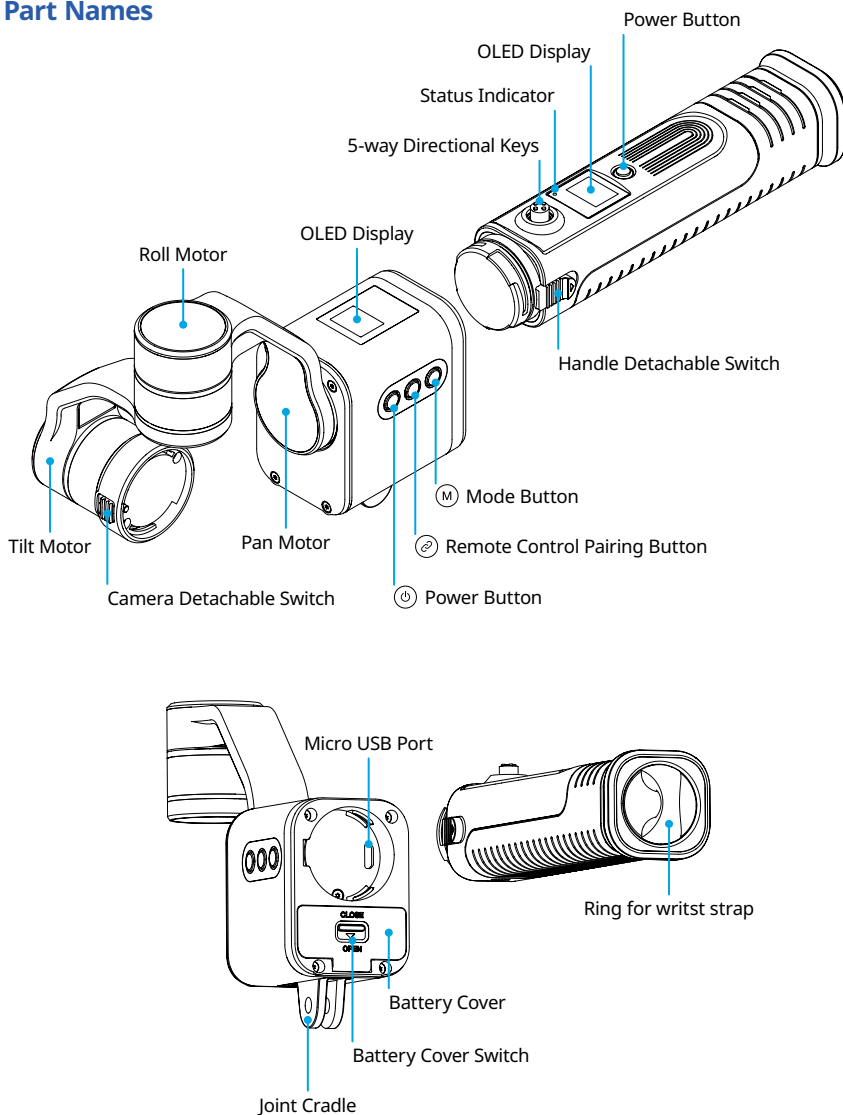
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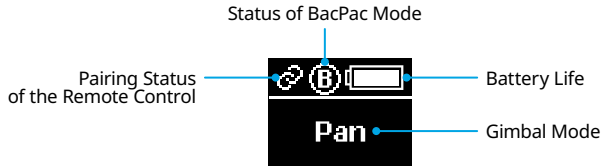
Youtube.com/removu

1. Parts

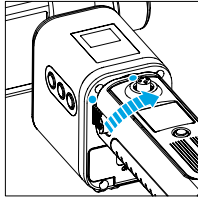
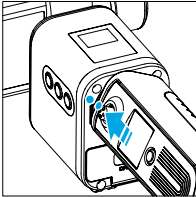
Part Names



OLED Display Indicators

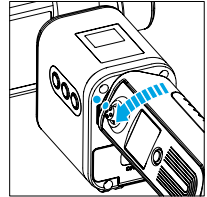
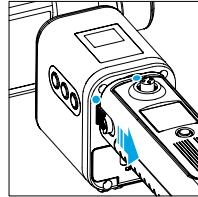


How to attach the handle to the S1



To attach the handle:

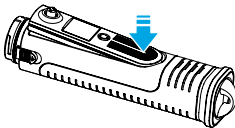
There are white dots located on the S1 and the handle. Align the white dot on the handle with the white dot on the S1 and then turn the handle clockwise until the handle is locked.



To detach the handle:

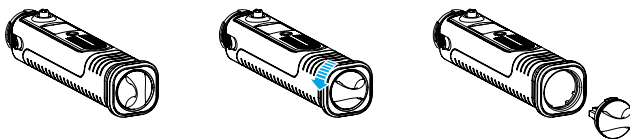
While pushing down on the handle's detachable switch, turn the handle counter-clockwise.

How to remove the Remote Control



Firmly press on the bottom of the remote control until the remote control pops up from the handle.

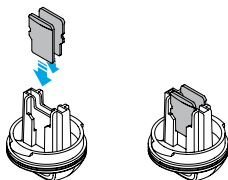
How to detach the Cap on the S1 Handle



To detach, turn the cap on the S1 Handle counter-clockwise.

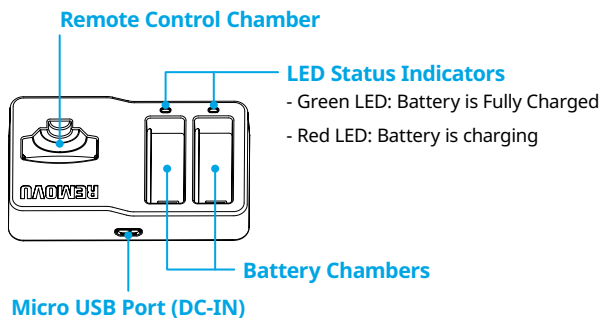
To attach, turn the cap on the S1 Handle clockwise.

How to store SD Card inside of the Cap on the S1 Handle



There are dual micro SD slots inside the cap on the S1 handle.

How to use the charger



Note: Recommended use with a 5V/2A adaptor.

If you use adaptor that is less than 5V/2A, please charge only one S1 battery.

2. Getting Started



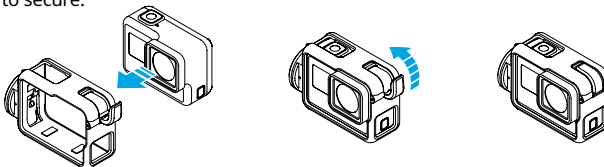
Warning

- Connect a compatible camera to the S1 gimbal. DO NOT turn the power on without a camera connected to the S1 gimbal. It may cause malfunctions.
- Turn the power on the camera before turning on the gimbal.
- Hold the gimbal steady while powering on the gimbal.
- After used S1 on the beach, please wash the S1 with running fresh water. Do not dive S1 under the water.

2-1. HERO5 Users

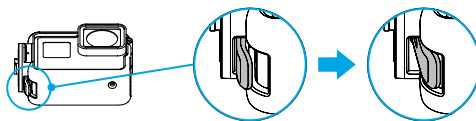
Step 1. Insert the camera into the frame housing

Unhook the latch on the top right side of frame housing and slide the camera into frame housing. Close the latch to secure.



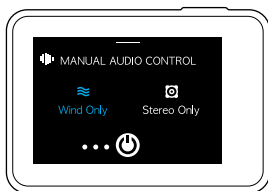
Step 2. Turn the power on the camera

Cam's power can be turned ON/OFF using the button below the joint.



Step 3. "Wind Only" on MANUAL AUDIO CONTROL of HERO5

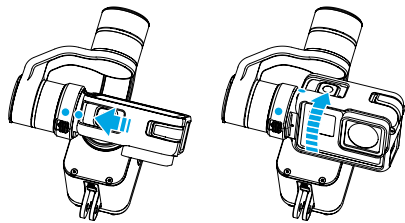
Please select "Wind Only" on MANUAL AUDIO CONTROL of HERO5 to use with S1.



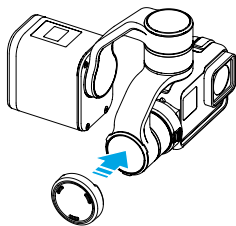
Note: If you do not select this option or select "Stereo Only", noise can be recorded.

Step 4. Mount Camera Housing on to S1 Gimbal

There are white dots located on the S1 gimbal and the housing. Align the white dot on the housing with the white dot on the S1 gimbal and then turn the housing clockwise until it is locked into place.



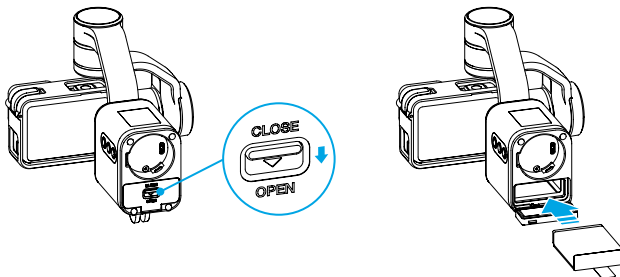
Step 5. Attach the balance weight cap on the tilt motor



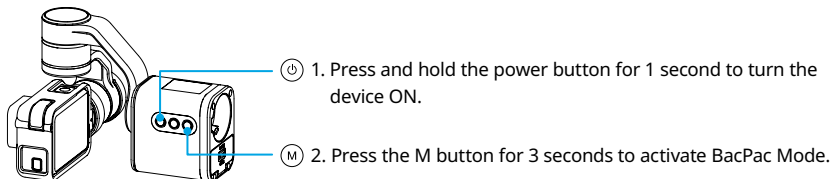
Note: If using S1 without the weight balance cap, it have effect on operating and usage time. Please check that weight balance cap is firmly attached to the S1 before operating the gimbal.

Step 6. Insert Battery into S1

Slide the Lock switch to the open position and open the lid. After inserting the battery, close the lid and slide the Lock switch to the close position.



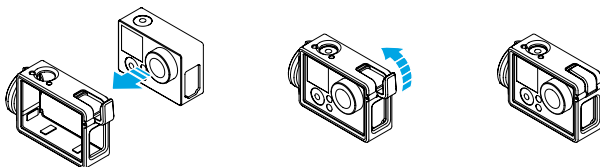
Step 7. Powering On & Using BacPac Mode



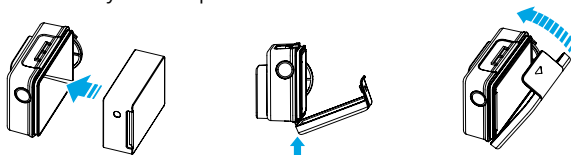
2-2. HERO3, 3+, 4 Users

Step 1. Insert the camera into the frame housing or the rainproof housing

- Frame Housing: Unhook the latch on the top right side of frame housing and slide the camera into frame housing. Close the latch to secure.

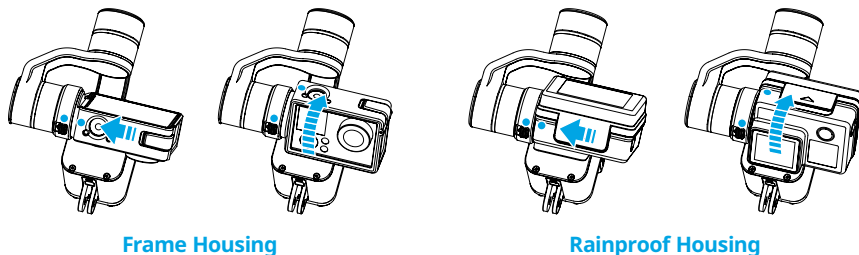


- Rainproof Housing: Place the camera inside the rainproof housing. Then, attach the bottom of the backdoor to the housing, then attach the top of the backdoor to the housing until they click into place.



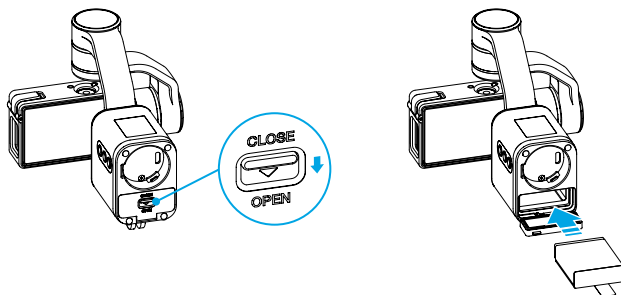
Step 2. Mount Camera Housing on to S1 Gimbal

There are white dots located on the S1 gimbal and the housing. Align the white dot on the housing with the white dot on the S1 gimbal and then turn the housing clockwise until it is locked into place.

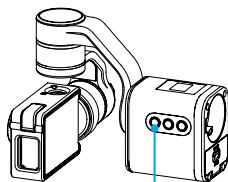


Step 3. Insert Battery into S1

Slide the Lock switch to the open position and open the lid. After inserting the battery, close the lid and slide the Lock switch to the close position.

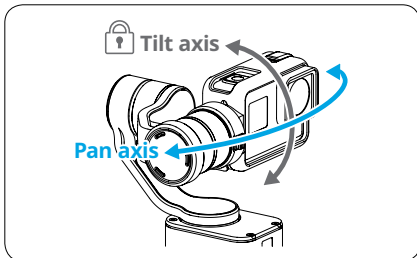


Step 4. Powering On and Off



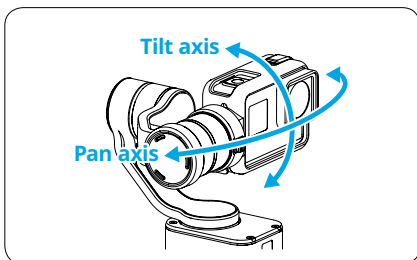
⏻ Press and hold the power button for 1 second to turn the device ON/OFF.

3. Gimbal Mode



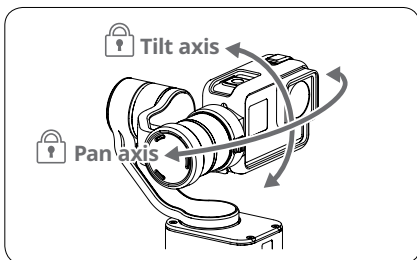
Pan Mode

Tilt and Roll are fixed and camera is permitted to pan left or right.



Follow Mode

Camera is permitted to pan left or right and tilt up and down, while Roll is fixed.



Lock Mode

Camera stays in its current orientation. All Pan / Tilt / Roll are fixed.

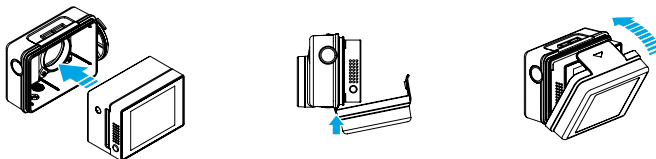
Changing Modes

- Gimbal modes can be changed by pressing the mode button.
Modes are cycled in the following order: Pan ► Follow ► Lock

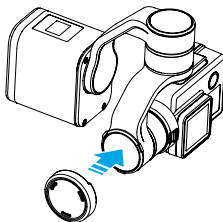
How to use BacPac Mode

BacPac Mode is for using S1 with GoPro LCD Touch BacPac or Battery BacPac.

1. After attaching the BacPac to GoPro camera, place GoPro camera inside rainproof housing and close the housing backdoor using extension backdoor.



2. In order to get the best performance, please attach the balance weight cap on the tilt motor.

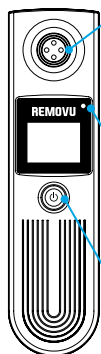


Note: If using S1 without the weight balance cap, it have effect on operating and usage time. Please check that weight balance cap is firmly attached to the S1 before operating the gimbal.

3. Press the M button for 3 seconds to activate BacPac Mode.

4. How to use the Remote Control

Part Descriptions



5-way Directional Keys

- Press and hold for 3 seconds to activate pairing mode so that the remote control can be paired with the S1 gimbal.
- To change the mode, press the button briefly.
- Pan Mode: Gimbal can be operated by up or down direction keys.
- Follow Mode: Gimbal can be operated by up or down direction keys.
- Lock Mode: Gimbal can be operated by left, right, up or down direction keys.

Status Indicator

- Charging: Red LED
- Fully Charged: Blue LED
- Standby Mode: Blue LED flashes

Power Button

- Press and hold the power button for 3 seconds to turn the device ON/OFF.

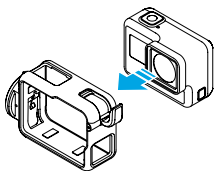
Pairing

1. Connect a camera to the gimbal.
2. Turn the power on the gimbal.
3. After the gimbal has powered on, press and hold the pairing button for 3 seconds until the  flashes on the OLED display.
4. Turn the power on the remote control.
5. After the remote control has powered on, press and hold the 5-way direction key for 3 seconds until the OLED displays the pairing icon.
6. Once pairing is complete, the OLED display  to indicate that the remote control and gimbal are paired and connected. The remote control can now be used with the gimbal.

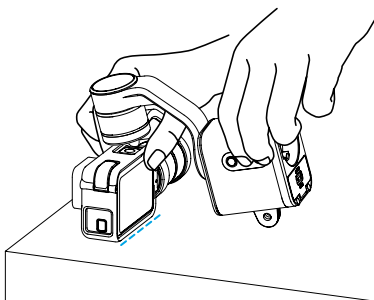
Note: You only need to follow the steps above once. Afterwards, the S1 and remote control will connect automatically.

5. Calibration of Gimbal

Please do calibration when the S1 is not working as horizontal by unbalanced of roll and tilt while using the S1.



1. Place the GoPro camera into frame housing and attach frame housing to the gimbal.



2. Put the frame housing on a flat surface. (Refer to the image)
3. - Like the left image, hold the gimbal and the frame housing tightly with hands.
 - Power on the gimbal.
 - Press the **(M)** button and **(P)** button together for 3 seconds. (Please do calibration in a flat or horizontal surfaces.)
4. After indicating "User Calibration" on OLED display, calibration operates for 5 second. (While operating calibration, DO NOT move the gimbal and the frame housing.)

Video Tutorials

Step 1

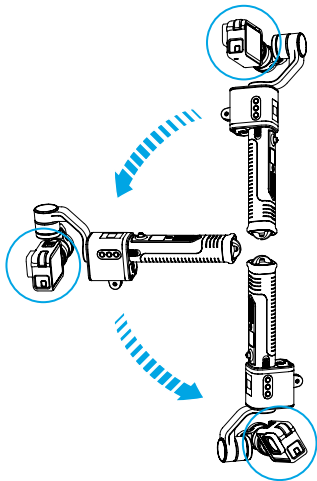


Step 2

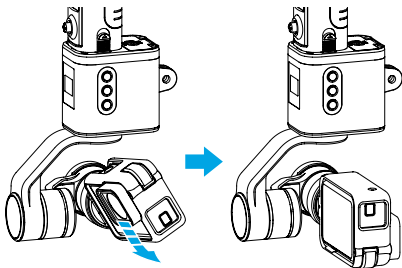


6. How to use Low Angle

When using Pan Mode:

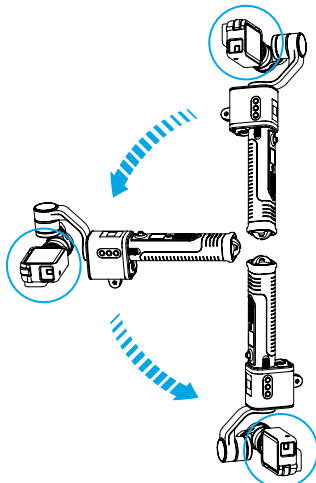


In Pan Mode, the camera will automatically position left and right. The Tilt and Roll positions are fixed, therefore the camera will be pointing at the gimbal's motor.

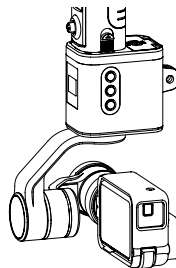


Using your hand, manually adjust the camera's position by rotating the camera away from the gimbal motor.

When using Follow Mode:



In follow mode, the camera will automatically adjust its position as it is inverted.



The gimbal is automatically position and ready for use.

7. Firmware Upgrade

Please visit our website at www.removv.com/s1_firmware. The detailed upgrade instructions can also be found on the page.

8. Technical Specs

Gimbal

Operating Voltage (DC)	6.4V ~ 8.4V
Weight	380g (housing and battery excluded)
Vertical Tilt Angle	292°
Roll Angle	90°
Horizontal Panning Angle	292°
Operating Time (@25°C)	3h ~ 5h
Battery	7.4V / 850mAh
Battery Charging Time	2.5h (5V/2A)
Operating Temperature	-20°C ~ 45°C

Handle

Dimensions	1.29 x 1.26 x 6.31 inches (32.8 x 32.0 x 160.4 mm)
Weight	70g

Remote Control

Operating Time (@25°C)	10h
Operating Distance	33feet (10m)
Weight	24g
Battery	3.7V / 200mAh
Battery Charging Time	2.5h (5V/2A)
Operating Temperature	-20°C ~ 45°C

9. Safety Instructions

Maintenance

Follow these guidelines to get the best performance from your REMOVU S1.

- REMOVU S1 is a rainproof gimbal that can be used in the rain or snow. Do not submerge S1 in the water for underwater shoot purpose. Make sure that S1's battery cover is closed before using.
- Before closing the doors, be sure the seals are free of debris. If needed, clean with a cloth.
- Before opening the doors, be sure S1 gimbal is free of water or debris. If needed, rinse the device with fresh water and dry it with a cloth.
- If sand or debris hardens around the doors, rinse with tap water thoroughly to remove the debris before opening the doors.
- After every use in salt water, rinse the S1 gimbal with fresh water and dry it with a clean cloth.
- In wet environments, dry the S1 gimbal with a soft cloth and dry it, so that it will be protected from corrosion.
- To clean the S1 gimbal, wipe it with a soft, lint-free cloth. If debris becomes lodged between the each motor and the trim ring, flush it out with water or air. Do not insert foreign objects around the motor joints.

Battery Information

Follow these guidelines to get the safe performance from your REMOVU S1.

- The batteries of S1 and the remote controller should be charged by an S1 exclusive charger only. 5V/2A adaptor is recommended. Charge only 1 battery, if charged under 5V/1A.
- S1 contains sensitive components, including the battery. Avoid exposing your S1 to very cold or very hot temperatures. Low or high temperature conditions may temporarily shorten the battery life or cause the S1 to temporarily stop working properly.
- Avoid dramatic changes in temperature or humidity when using the S1, as condensation may form on or within S1.
- Do not dry the S1 or battery with an external heat source such as a microwave oven or hair dryer. Damage to the S1 or battery caused by contact with liquid inside the S1 is not covered under the warranty.
- Do not store your battery with metal objects, such as coins, keys or necklaces. If the battery terminals come in contact with metal objects, this may cause a fire.

Warning: Do not drop, disassemble, open, crush, bend, deform, puncture, shred, microwave, incinerate or paint the S1 or battery. Do not insert foreign objects into the battery opening on the S1. Do not use the S1 or the battery, if it has been damaged—for example, if cracked, punctured or harmed by water. Disassembling or puncturing the battery can cause an explosion or fire.

Battery Disposal

Most rechargeable Li-Polymer batteries are classified as non-hazardous waste and are safe for disposal in the normal municipal waste stream. Many localities have laws in place requiring battery recycling. Check your local laws to make sure that you can dispose of rechargeable batteries in your regular trash. To safely dispose of Li-Polymer batteries, protect terminals from exposure to other metal with packing, masking or electrical tape so they do not cause a fire while being transported. Never dispose of a battery in a fire because it may explode.

Battery Warning

- Do not expose the battery to sunlight, fire or heat.
- Do not disassemble, open or cut the battery.
- Do not store the battery in high-temperature area.
- Be careful of a short circuit of the battery socket. Do not store in a box or drawer in which there are other metal materials or coins. It might cause a short circuit.
- Do not remove the packing of the battery before using.
- Do not pressure any physical shock into the battery.
- In case of leakage of the battery, do not expose your skin or eye to the leakage. If exposed, rinse with fresh water enough and see a doctor immediately.
- Do not use other chargers except for the charger in the S1 package.
- Check the battery's '+' and '-', and insert it properly into S1 battery slot.
- Do not use other batteries that are made not for S1.
- Do not mix other kinds of batteries in one device (ex, different manufacturer, capacity, or form).
- Keep the battery away from small children. If swallowed, see a doctor immediately.
- Purchase right batteries to S1 always.
- Keep the battery clean and dry.
- In case of battery pollution, clean the battery socket with a dry cloth.
- Batteries should be charged before using. Follow the manufacturer's guideline of the battery charger and use proper charger according to the S1 manual.
- Do not overcharge the battery, if the battery is not used for a long time.
- Normally, a battery's best performance is done at the room temperature, $20^{\circ}\text{C}(68^{\circ}\text{F}) \pm 5^{\circ}\text{C}(9^{\circ}\text{F})$.
- Use the battery for the original purpose only.
- Separate the battery from the S1, in case of no use for a long time.
- Do not open or fix the battery. Ask REMOVU C/S Center of the battery related issues.
- Do not store the battery with coins, keys, neckless or metal materials. It might cause fire, if the battery's slot is contacted with metal materials.
- Keep the battery dry, S1 gimbal protects the battery from the water leakage. Do not wet the battery. Otherwise, it might cause fire or electric shock. Battery damage by water is not covered by warranty service.
- Use REMOVU S1's genuine battery only.

10. Warranty Information

Refund and Replacement Policy

Essel-T Co., LTD. ("Essel-T") guarantees refund and replacement as the following conditions.

- Refund can be requested within 7 days of the delivery date (subject to actual date the product was received)
- Replacement can be requested within 14 days of delivery date (subject to actual date the product was received)

Please contact REMOVU Support Team or the authorized distributor of REMOVU from whom you purchased your product for more details. If you request refund or replacement to Essel-T directly, you will be required to fill out a Repair Form which should be sent to us with the defective unit.

A refund will be provided as the following conditions:

1. Within 7 days of delivery, if the product has not been activated and is still in new or like-new condition;
2. Within 7 days of delivery, if the product has a manufacturing defect;

A refund will NOT be provided as the following conditions:

1. The refund was requested beyond 7 days of delivery;
2. Product returned for refund does not include all original accessories, components, and packaging or any item is not in new or like-new condition, i.e. with cracks, dents or scratches;
3. Proof-of-purchase or receipts are not provided, or are believed to have been forged or tampered with;
4. Product defects or damage has been caused by unauthorized use, modification of the product, including accident, improper storage, exposure to moisture, entry of foreign bodies (e.g. sand or dirt), neglect, or unusual physical, electrical or electromechanical stress;
5. Damage was caused to the product by external causes such as collision with an object, fire, flooding, dirt, wind-storm, lightning, earthquake, exposure to weather conditions, theft, blown fuse, or improper use of any electrical source;
6. The product has not been sent back to Essel-T within 7 days after refund confirmation from Essel-T;

A replacement will be provided as the following conditions:

1. Within 14 days of delivery, if the product has sustained damage in delivery process;
2. Within 14 days of delivery, if the product purchased does not match the original description of the product in one or more significant respects;
3. Within 14 days of delivery, if the product has a manufacturing defect(s);

A replacement will NOT be provided as the following conditions:

1. The replacement was requested beyond 14 days of delivery;
2. Proof-of-purchase or receipts are not provided, or are believed to have been forged or tampered with;
3. Product has no manufacturing defects after appropriate tests are conducted by Essel-T Technical Support Team;
4. Product defects or damage has been caused by unauthorized use, modification of the product, including accident, improper storage, exposure to moisture, entry of foreign bodies (e.g. sand or dirt), neglect, or unusual physical, electrical or electromechanical stress;
5. Damage was caused to the product by external causes such as collision with an object, fire, flooding, dirt, wind-storm, lightning, earthquake, exposure to weather conditions, theft, blown fuse, or improper use of any electrical source;

Warranty Service

Essel-T Co., LTD. ("Essel-T") warrants that Essel-T's devices and accessories ("Products") are free from defects in material and workmanship under normal use and service for the period commencing upon the date of purchase by the first consumer purchaser and continuing for 1 year period of time after that date. If the problem is not covered under the Essel-T Warranty Service, you may have to pay for the cost of return delivery and testing the product.

The following situations are not covered by the Essel-T Warranty Service:

1. Defects or damage resulting from accident, misuse, abnormal use, abnormal conditions, improper storage, exposure to liquid, moisture, dampness, sand or dirt, neglect, or unusual physical, electrical or electromechanical stress;
2. Scratches, dents and cosmetic damage, unless caused by Essel-T;
3. Defects or damage resulting from excessive force or use of a metallic object when pressing on a touch screen;
4. Equipment that has the serial number or the enhancement data code removed, defaced, damaged, altered or made illegible;
5. Ordinary wear and tear;
6. Defects or damage resulting from the use of Product in conjunction or connection with accessories, products, or ancillary/peripheral equipment not furnished or approved by Essel-T;
7. Defects or damage resulting from improper testing, operation, maintenance, installation, service, or adjustment not furnished or approved by Essel-T;
8. Defects or damage resulting from external causes such as collision with an object, fire, flooding, dirt, windstorm, lightning, earthquake, exposure to weather conditions, theft, blown fuse, or improper use of any electrical source;
9. The battery has been charged by a battery charger not specified or approved by Essel-T for charging the battery;

Essential Information for Warranty Service

1. Customers are responsible for shipping costs when returning product(s) for repair or replacement under the Essel-T Warranty Service.
2. Technical Support Team will investigate the returned product to identify the problem. If the product has defect itself, Essel-T will pay all cost about repair and delivery cost for sending the repaired product back to the customer.
3. If Essel-T determines that the product is not covered under the our Warranty Service, the customer will have to pay the cost of repair and delivery cost.

Customer Paid Repair Service

Essel-T Co., LTD. ("Essel-T") also provides our customers with customer paid repair service for products that do not meet the conditions of our Warranty Service. For the paid repair services, we offer, you will be charged for diagnostics, materials, repair and delivery.



Made for GoPro® HERO Cameras

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