

Airpeak S1
ARS-S1



This manual explains the basic usage of ARS-S1.

This manual describes the operation of the ARS-S1 system software and the dedicated applications "Airpeak Base" and "Airpeak Flight" when all are used with the latest versions.

Operating an aircraft in the United States is subject to federal laws and regulations. State and local ordinances may also apply to certain operations. When operating an aircraft, it is the remote pilot/operator's responsibility to always comply with applicable laws, regulations, and ordinances.

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Product features/system configuration

This product is an aircraft system that realizes dynamic and stable remote photography and videography. With a full-frame mirrorless Sony Alpha camera (sold separately; hereafter, “camera”) equipped, you can capture high-quality images in aerial photography and videography.

Sony is not liable or responsible for any experience, including but not limited to videography, photography, content, income, fees, and/or other compensation associated with or related to the use and/or misuse of the aircraft, its parts, and/or accessories including hardware and software.

Highlights

Agile flying performance and control that unleashes the potential of cameras

Capture impressive, dynamic images from an agile aircraft with intuitive control.

Expands possibilities in aerial photography

The aircraft estimates its location and attitude with high accuracy and recognizes surrounding space in real time by integrating information from sensors such as stereo cameras mounted in five directions on the aircraft (front, back, left, right, and bottom), IMU (Inertial Measurement Unit), compass, barometric pressure, and infrared ranging. This enables stable flight even under conditions where GNSS (Global Navigation Satellite System) signal reception is difficult, such as indoors or under bridges. Multi-directional sensors assist in obstacle detection and braking.

Streamlines workflows with automation

Create sophisticated flight plans with the web app “Airpeak Base.” Besides automated flights based on flight plans, you can use past flight logs to automatically fly the same routes you have flown.

System configuration

This product consists of the components described below.

For the system configuration when using this product in combination with the RTK kit (sold separately), follow the operating instructions accompanying the RTK kit.

Aircraft

A camera can be mounted using a 3-axis gimbal (sold separately; hereafter, “gimbal”)

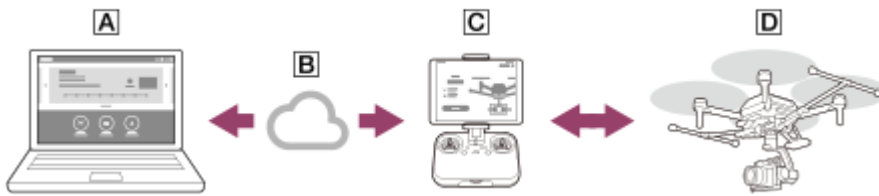
Remote controller/dedicated mobile app “Airpeak Flight”

Install the “Airpeak Flight” App to your mobile device (tablet or smartphone) and attach your mobile device to the remote controller. After completing the process of linking the remote controller and aircraft, you can operate the aircraft, gimbal, and camera (the latter two both sold separately). On the “Airpeak Flight” App screen, you can check the flight distance and battery level, perform various operations, and change settings.

This data and information is synchronized between the “Airpeak Base” and “Airpeak Flight” Apps while your mobile device is connected to the cloud.

Dedicated web app “Airpeak Base”

“Airpeak Base” is a dedicated cloud-based web application that can be used on a computer or iPad to manage devices, plan flights, and view flight logs.



A Web app “Airpeak Base”-ready computer or iPad:
Manage the devices, plan flights, and view flight logs.

B Cloud

C Mobile app “Airpeak Flight”-ready remote controller:
Control the aircraft and a gimbal/camera (both sold separately).

D Aircraft:
Equip with a camera (sold separately) on the aircraft using a gimbal (sold separately).

Note

- “Airpeak Flight,” “Airpeak Base,” “Airpeak Plus,” and any other Airpeak or third-party network services, content, operating systems, or software are subject to terms and conditions and may be changed, interrupted, or discontinued at any time. Fees, registration, and credit card information may also be required.

- Screen images and illustrations in this Help Guide (web manual) may vary from the actual product.
- Design and specifications are subject to change without notice.

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Types of logs stored on the aircraft

Two types of logs are stored in the aircraft's onboard memory.

By default, the "Airpeak Flight" App automatically uploads flight logs and device logs to the cloud. You can also upload them manually at a convenient time depending on the network environment and other circumstances.

Flight log

This type of log records data related to the aircraft's flights.

You can use the "Airpeak Base" App to view flight logs stored in the cloud.

For information on the upper limit on the number of flight logs that can be stored on the "Airpeak Plus" cloud service, visit the product page.

<https://electronics.sony.com/airpeak/p/arss1/>

Device log

This type of log records data needed by Sony Customer Support to diagnose the status of devices such as aircrafts, remote controllers, and other accessories.

All device logs may be necessary to diagnose the status of devices.

Note

- It is not possible to upload device logs of an aircraft or remote controller that is starting up. If a problem occurs, turn the aircraft or remote controller off and then on again, then upload the device logs.

Related Topic

- [Uploading flight logs to the cloud](#)
- [Checking flight logs in the "Airpeak Base" App](#)
- [Uploading device logs to the cloud](#)
- [Flight logs and RTK positioning data](#)
- [Performing Repeat Flight using a Timeline Mission converted from a flight log](#)
- [Performing Direct Repeat Flight](#)

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Supported mobile devices

Visit the support site for details on mobile devices you can use.

<https://electronics.sony.com/airpeak/support/compatibility>

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Supported cameras and lenses

Visit the support site for details on camera bodies and lenses you can use.

<https://electronics.sony.com/airpeak/support/compatibility>

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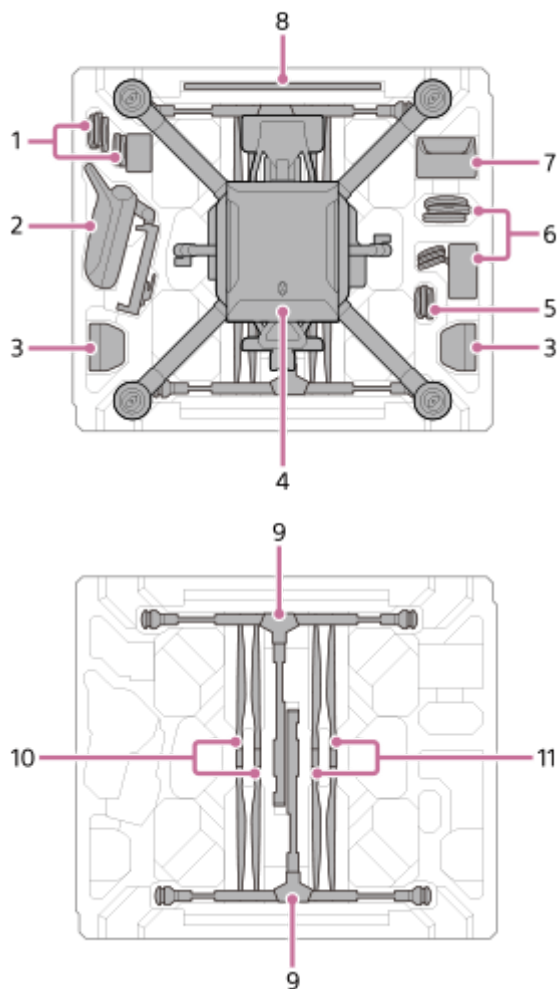
Package contents

Contact the place of purchase or Sony Customer Support if any components are missing. Quantities are indicated in parentheses.

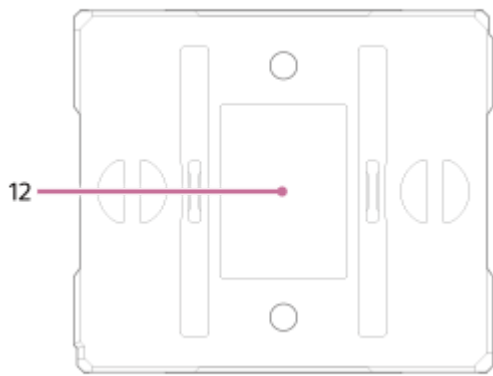
Note

- Please retain the cushionings as they will be used when assembling the aircraft.

Bottom cushioning



Top cushioning



1. AC adapter for remote controller (1)/power cord (1)



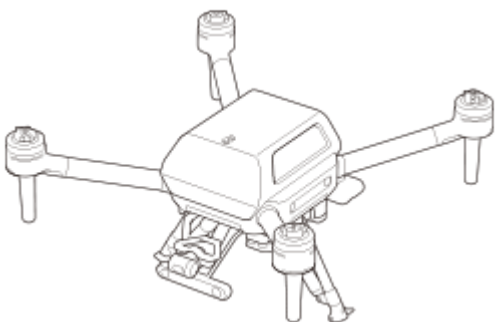
2. Remote controller (1)



3. Battery pack (LBP-HS1) (2)

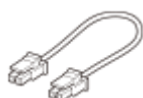


4. Aircraft (1)



5. Cables

- Power cable (aircraft — gimbal) (1)



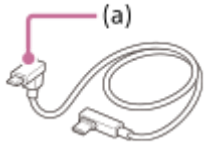
- Control cable (aircraft — gimbal) (1)



- USB Type-C[®] cable (aircraft — gimbal) (1)

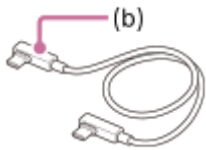


- Micro USB cable (gimbal — camera) (1)



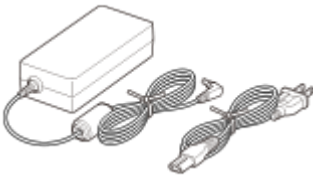
(a) Micro USB

- USB Type-C[®] cable (gimbal — camera) (1)

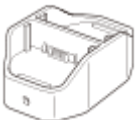


(b) USB Type-C[®]

6. AC adapter for battery charger (1)/power cord (1)



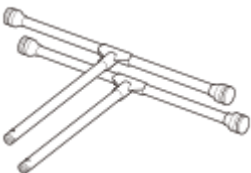
7. Battery charger (1)



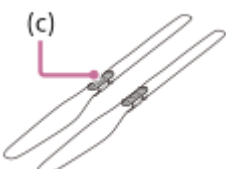
8. Calibration board (1)



9. Landing gear (2)

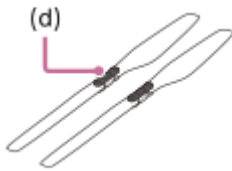


10. Propeller (CW: clockwise rotation) (2) (*1)



(c) Hub: silver

11. Propeller (CCW: counterclockwise rotation) (2) (*1)



(d) Hub: black

12. Startup Guide (1)/Warranty (1)

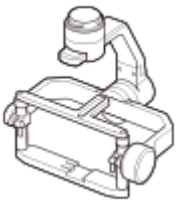
*1 Not capable of being folded

About the gimbals sold separately

The gimbals sold separately do not come with operating instructions. The following package contents are included with the gimbals.

GBL-T3 (sold separately)

- Gimbal (1)



- Damping plate (1) (*1)



- Hot shoe adapter (1)
- Top camera screw (1)
- Camera plate (1)
- Micro USB cable (gimbal — computer) (1)
- Hot shoe extension (1)
- Hex screw (10) (including two spare screws)
- Hex wrench (1)
- Quick-release rubber cover (1)
- Warranty (1)

*1 Quick-release is preinstalled.

GBL-PX1 (sold separately)

- Gimbal (1)



- Damping plate (1) (*1)



- Micro USB cable (gimbal — computer) (1)
- Hex screw (10) (including two spare screws)
- Hex wrench (1)
- Quick-release rubber cover (1)
- Warranty (1)
- Before Using This Unit (1)

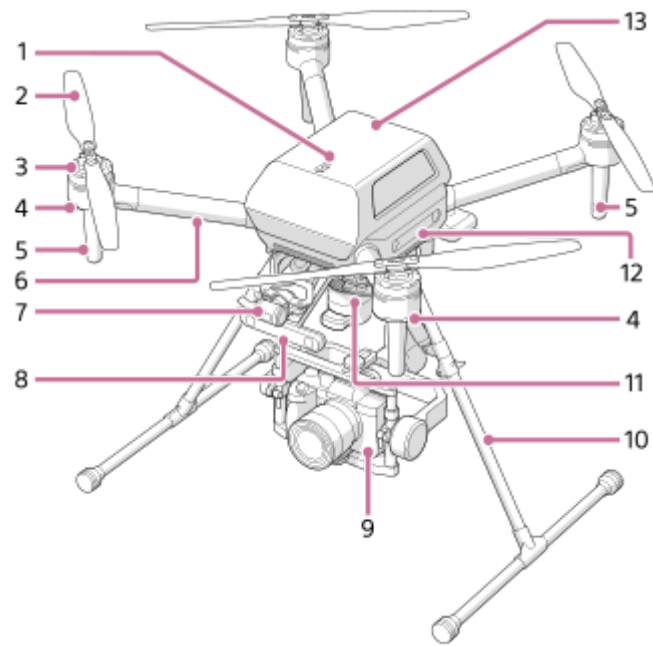
*1 Quick-release is preinstalled.

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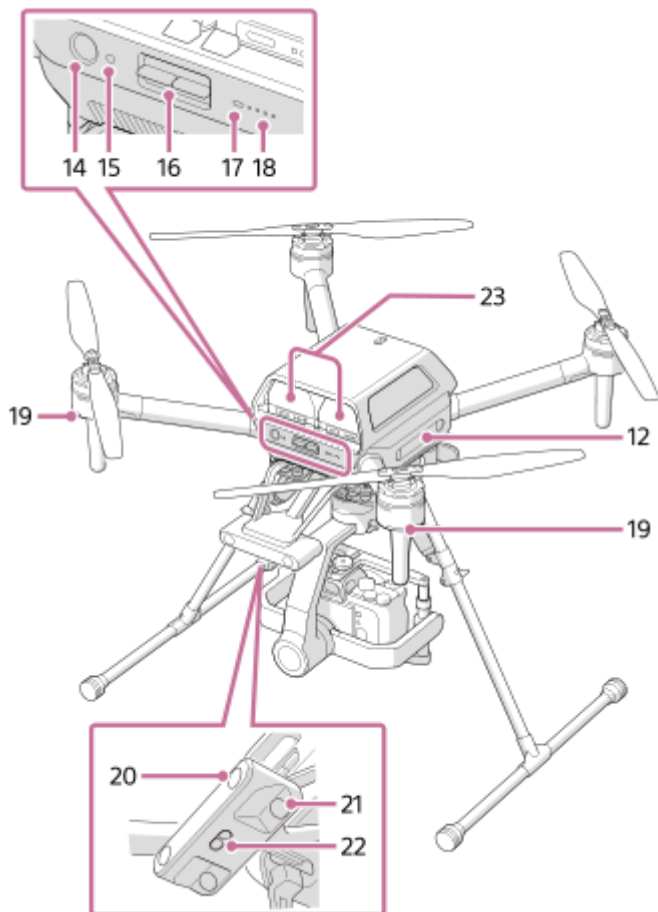
Parts and controls (Aircraft)

The locations of the parts and controls of the aircraft are shown below.

Front



Rear



1. Upward infrared range sensor
Detects objects above and measures the distance to them.
2. Propellers
3. Motors
4. Flight status LEDs (Front LEDs)
Light up in red while the aircraft is turned on to indicate the front direction.
5. Antennas (built-in)
6. Frame arms
7. FPV gimbal camera
Images from this camera are displayed in the FPV view in the “Airpeak Flight” App.
8. Forward-facing stereo camera
Detects objects in front and measures the distance to them.
9. Camera (sold separately)
10. Landing gear
11. Gimbal (Main gimbal) (sold separately)
12. Side-facing stereo cameras
Detect objects on the left and right and measure the distance to them.
13. GNSS (Global Navigation Satellite System) antenna (built-in)
14. ⏻ (Power) button
Press and hold for 2 seconds to turn the aircraft on or off.

15. LINK button

Press to link the aircraft and the remote controller.

16. BATTERY RELEASE levers

17. Power status LED

Indicates the status of the aircraft.

LED color	LED indication	Status of the aircraft
Green	Lit up	Turned on
Cyan	Lit up	Receiving system software data.
Green, red, and yellow	Blinking alternately	Updating system software.

18. Battery level LEDs

Indicate the remaining battery level of the battery packs loaded in the aircraft.

LED indication	Remaining battery level
All lit up	Full
Three lit up	Approx. 75%
Two lit up	Approx. 50%
One lit up	Approx. 25%
Blinking fast	Low
Off	None

19. Flight status LEDs (Rear LEDs)

Indicate the status of the aircraft.

Status notifications

LED color	LED indication	Status of the aircraft
Green, yellow, and red	Blinking alternately	The aircraft is starting up.
Green	Blinking slowly	GNSS (Global Navigation Satellite System) signals are being used for positioning.
Green	Blinking twice repeatedly	The Vision Positioning is being used for positioning.
Yellow	Blinking slowly	The aircraft is flying with [Flight mode] set to [Alt (Altitude)].
Blue	Blinking fast	The brakes have been activated to avoid obstacles.
Blue	Blinking slowly	The aircraft is performing automated flight.
Cyan	Blinking twice repeatedly	The aircraft is waiting for the completion of linking with the remote controller.

Warning notifications

LED color	LED indication	Status of the aircraft
Yellow	Blinking twice repeatedly	The signal from the remote controller has been lost.
Red	Blinking twice repeatedly	The battery level of the aircraft is low.
Red	Blinking fast	The battery level of the aircraft is almost depleted.
Red	Lit up	A fatal error has occurred. If the aircraft is in flight, land it immediately.

20. Backward-facing stereo camera
Detects objects to the rear and measures the distance to them.
21. Downward-facing stereo camera
Detects objects below and measures the distance to them.
22. Downward infrared range sensor
Detects objects below and measures the distance to them.
23. Battery packs

Related Topic

- [Connecting cables to the aircraft](#)
- [Attaching the damping plate to the aircraft](#)
- [Attaching landing gear](#)
- [Attaching the propellers](#)
- [Setting the flight mode](#)
- [Turning the aircraft on/off](#)
- [Calibrating the sensors of the aircraft](#)

Detection range of the infrared range sensors and stereo cameras

The aircraft is equipped with two infrared range sensors and five stereo cameras. They enable stable flight and hovering by detecting objects around the aircraft and measuring the distance to them.

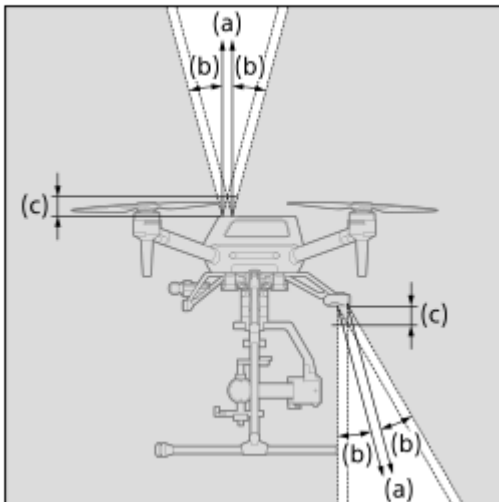
Note

- To ensure flight stability and safety, do not block the infrared range sensors or stereo cameras.

Detection range of the infrared range sensors

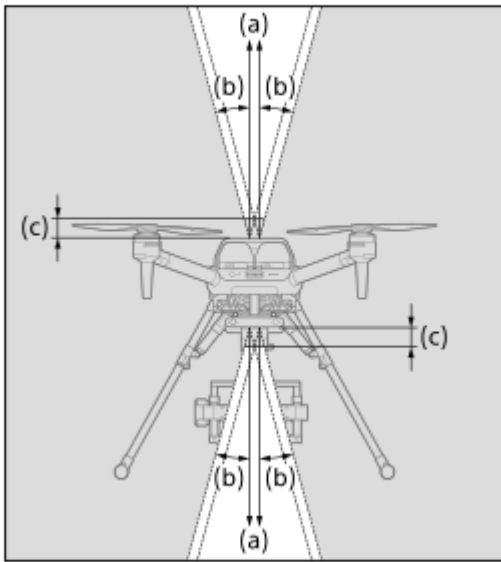
The detection range of the infrared range sensors is as shown in the illustrations below. Objects in the gray areas in the illustrations are outside the detection range, which means they cannot be detected. Be cautious when you fly the aircraft.

Side view (The left side is the front of the aircraft.)



- (a) 3 m
- (b) 15°
- (c) 100 mm

Rear view

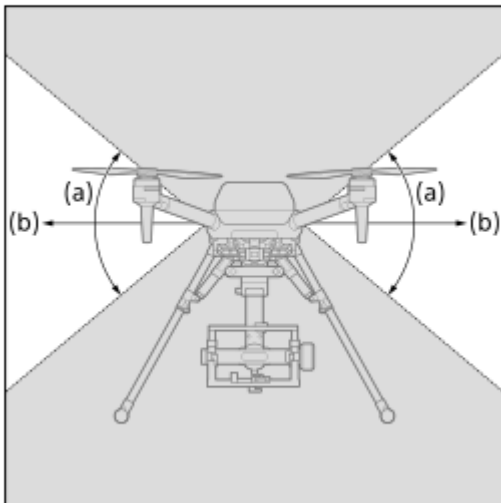


- (a) 3 m
- (b) 15°
- (c) 100 mm

Detection range of the stereo cameras

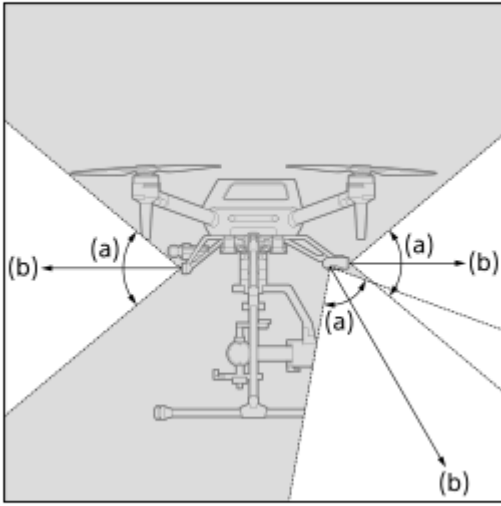
The detection range of the stereo cameras is as shown in the illustrations below. Objects in the gray areas in the illustrations are outside the detection range, which means they cannot be detected. Be cautious when you fly the aircraft.

Front view



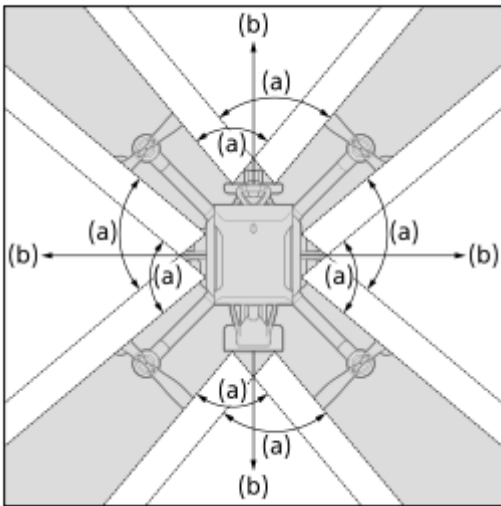
- (a) 80°
- (b) 54 m

Side view (The left side is the front of the aircraft.)



(a) 80°
 (b) 54 m

Top view



(a) 80°
 (b) 54 m

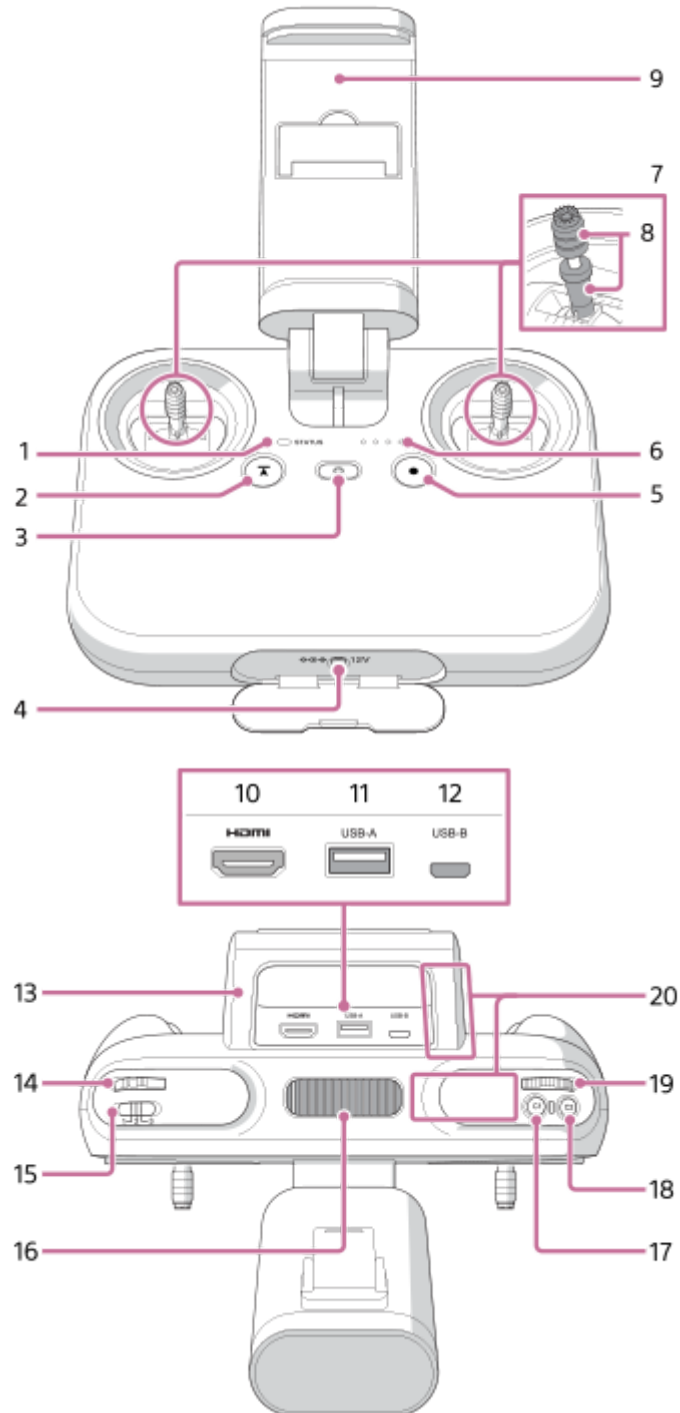
Related Topic

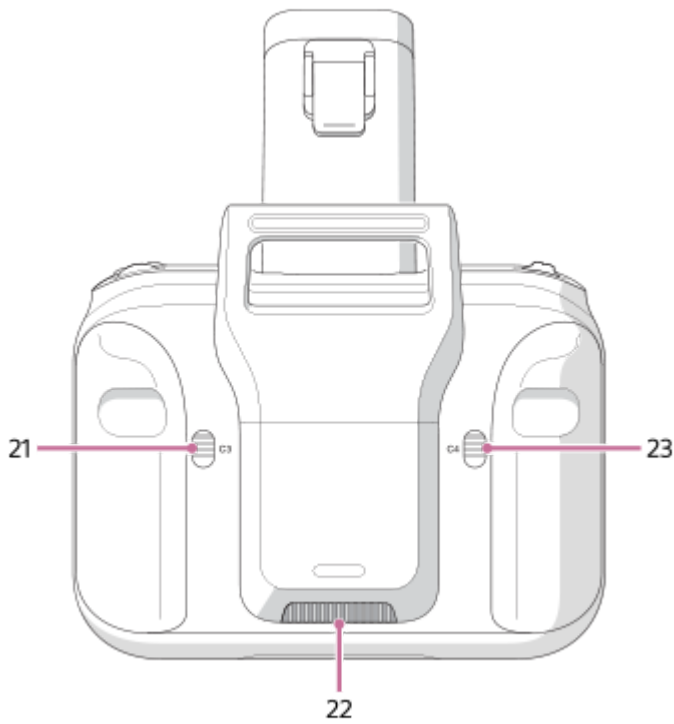
- [Parts and controls \(Aircraft\)](#)
- [Calibrating the sensors of the aircraft](#)

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Parts and controls (Remote controller)

The locations of the parts and controls of the remote controller are shown below.





1. Status LED

Indicates the status of the remote controller.

LED color	LED indication	Status of the remote controller
None	Off	Turned off
Green	Lit up	Not connected to the aircraft
Blue	Lit up	Connected to the aircraft as the main controller
Purple	Lit up	Connected to the aircraft as the sub controller
Green	Blinking	Starting up
Green	Blinking slowly at an interval of 6 seconds	In a standby state
Red	Blinking	An error has occurred in the remote controller.
Yellow	Blinking	There has been no operation for more than 5 minutes. The remote controller will enter a standby state if you leave it without performing any operation.
Cyan	Lit up	In the system software transfer mode
Cyan	Blinking twice repeatedly	Waiting for the completion of linking with the aircraft.
Green, red, and yellow	Blinking alternately	Updating system software

2. (Automated flight pause) button

Press to pause the aircraft's movement during automated flight.

3. (Power) button

Operation	Result
Press	The battery level LEDs light up or blink to show the remaining battery level.
Press and hold for 2 seconds	The remote controller turns on.
Press and hold for 5 seconds	The remote controller turns off.
Press and hold for 2 seconds while the remote controller is turned on	The remote controller enters a standby state. Press and hold for 2 seconds once again to wake it up from the standby state.
Press and hold for 10 seconds	The remote controller is forcibly turned off. If the power is still on after you pressed and held the ⏻ (Power) button for 10 seconds, simultaneously press and hold the C2 (Custom 2) button and the ⏻ (Power) button for at least 10 seconds.

4. Power port

5. (MOVIE) button

Press to start/stop video recording.

6. Battery level LEDs

Indicate the remaining battery level of the remote controller.

LED indication	Remaining battery level
All lit up	Full
Three lit up	Approx. 75%
Two lit up	Approx. 50%
One lit up	Approx. 25%
Blinking fast	Low
Off	None

7. Control sticks

Control the aircraft and gimbal (sold separately).

8. Lever heads

The lever heads of the remote controller are compatible with the following product.

- Manufacturer: Futaba Corporation
- Part Number: EBT2277
- Part Name: Gold Stick Ends
- URL: <https://futabausa.com/product/ebt2277/>

9. Mobile device holder

Mount the mobile device on which you have installed the “Airpeak Flight” App.

10. HDMI port

11. USB port (USB-A)

Connect a USB cable to this port and to the mobile device attached to the mobile device holder.

12. Micro USB port (USB-B)

13. Handle bar
An antenna for wireless transmission is built in. Be careful not to cover the antenna part with your hand or cables.
14. Control lever
Tilts the gimbal (up/down).
15. Flight mode switch
Selects the flight mode.
16. Air vent
Do not block the air vent with your hand or other objects while using the remote controller.
17. C1 (Custom 1) button
Assign the desired function to this button in the setting menu of the “Airpeak Flight” App. By default, you can take a photo by pressing this button.
18. C2 (Custom 2) button
Assign the desired function to this button in the setting menu of the “Airpeak Flight” App. By default, you can adjust the ISO sensitivity (recommended exposure index) of the camera (sold separately) by turning the control dial after pressing this button.
19. Control dial
Adjusts the aperture value (F-value) of the camera.
20. Antenna (built-in)
21. C3 (Custom 3) button
Assign the desired function to this button in the setting menu of the “Airpeak Flight” App. The following functions are assigned by default:
 - Adjust the shutter speed of the camera by turning the control dial after pressing this button.
 - Tilt the FPV gimbal (up/down) by moving the control lever while pressing this button.
 - Reset the FPV gimbal position by pressing this button twice.
22. Air inlet
Do not block the air inlet with your hand or other objects while using the remote controller.
23. C4 (Custom 4) button
Assign the desired function to this button in the setting menu of the “Airpeak Flight” App. The following functions are assigned by default:
 - Change the focus mode setting of the camera by turning the control dial after pressing this button.
 - Pan the main gimbal (left/right) by moving the control lever while pressing this button.
 - Reset the main gimbal position by pressing this button twice.

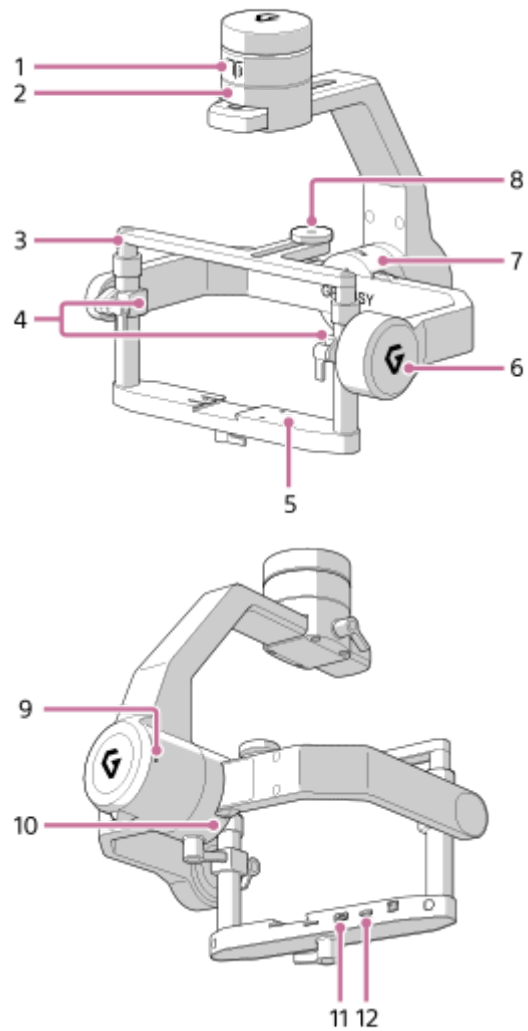
Related Topic

- [Attaching a mobile device to the remote controller](#)
- [Cautions when using the remote controller](#)
- [Controlling the aircraft with two remote controllers \(dual operation mode\)](#)
- [Changing the functions assigned to the custom buttons, lever, or dial on the remote controller](#)
- [Turning the remote controller on/off](#)
- [Parts for flight operations](#)
- [Parts for shooting operations](#)
- [Calibrating the remote controller](#)

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Parts and controls (Gimbal GBL-T3 (sold separately))

The locations of the parts and controls of the gimbal GBL-T3 (sold separately) are shown below.



1. Pan motor
2. Pan adjustment
3. Tilt top bar
4. Tilt vertical adjustment
5. Tilt front-back adjustment
6. Tilt motor
7. Roll motor
8. Top camera screw
9. Status LED

LED color	LED indication	Status of the gimbal
Red	Lit up	An error has occurred in the motor or IMU ^(*1) .
White	Blinking	Under calibration
White	Lit up	Starting the motor or IMU.
Yellow	Blinking	The motor or IMU is in a standby state.
Blue	Blinking	The gimbal is starting up, so it cannot accept remote operations.
Purple	Blinking	Being operated remotely

*1 IMU: Inertial Measurement Unit

10. Roll adjustment

11. AUX port

12. USB port

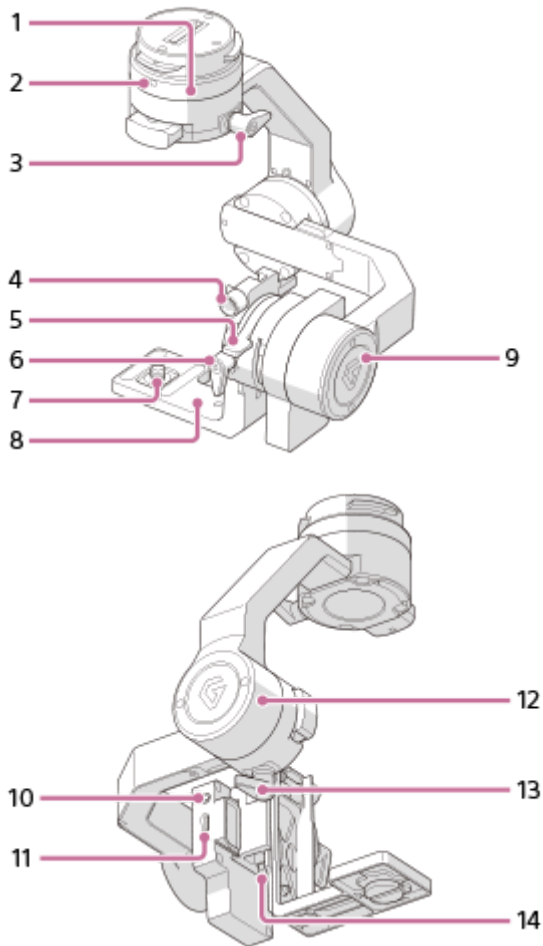
Related Topic

- [Mounting the gimbal GBL-T3 on the aircraft](#)
- [Mounting a camera on the gimbal GBL-T3](#)
- [Connecting cables between the camera and gimbal GBL-T3](#)
- [Adjusting the balance of the gimbal GBL-T3](#)
- [Adjusting the gimbal parameters](#)
- [Configuring the gimbal settings](#)

Airpeak S1
ARS-S1

Parts and controls (Gimbal GBL-PX1 (sold separately))

The locations of the parts and controls of the gimbal GBL-PX1 (sold separately) are shown below.



1. Pan motor

2. Status LED

LED color	LED indication	Status of the gimbal
Red	Lit up	An error has occurred in the motor or IMU ^(*1) .
White	Blinking	Under calibration
White	Lit up	Starting the motor or IMU.
Yellow	Blinking	The motor or IMU is in a standby state.
Blue	Blinking	The gimbal is starting up, so it cannot accept remote operations.
Purple	Blinking	Being operated remotely

*1 IMU: Inertial Measurement Unit

3. Pan adjustment

4. Camera fixing screw
 5. Tilt front-back adjustment
 6. Tilt vertical adjustment
 7. Tripod screw
 8. L-Bracket
 9. Tilt motor
 10. SYNC port
 11. USB port
 12. Roll motor
 13. Roll adjustment
 14. Release button
-
-

Related Topic

- [Mounting the gimbal GBL-PX1 on the aircraft](#)
- [Mounting a camera on the gimbal GBL-PX1](#)
- [Connecting cables between the camera and gimbal GBL-PX1](#)
- [Adjusting the balance of the gimbal GBL-PX1](#)
- [Adjusting the gimbal parameters](#)
- [Configuring the gimbal settings](#)

Airpeak S1
ARS-S1

Features of the “Airpeak Base” App

“Airpeak Base” is a dedicated web application for managing devices, planning flights, viewing flight logs, and more. It is available from browsers on a computer or iPad.

- Sign-in page for the “Airpeak Base” App
<https://base.airpeak.sony.com/>
- User Guide for the “Airpeak Base” App
For detailed information on how to use the “Airpeak Base” App, refer to the “Airpeak Base User Guide.”
<https://base.airpeak.sony.com/userguide/docs/introduction/airpeakbase>

You can also take advantage of the “Airpeak Plus” cloud service for greater convenience. For detailed information on the cloud service, visit the product page.

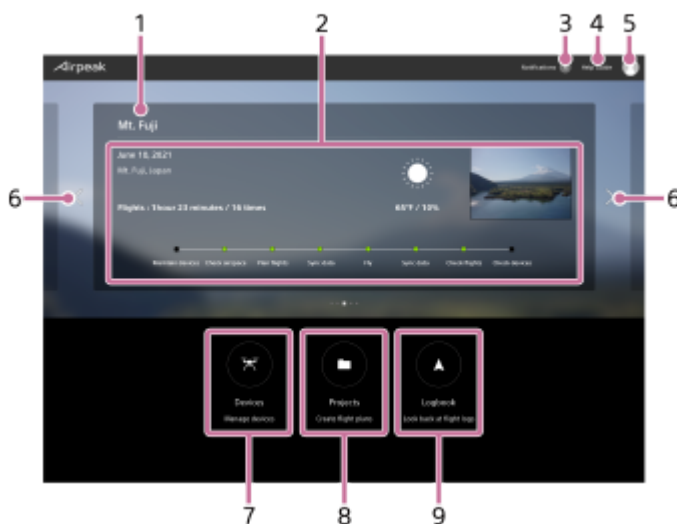
<https://electronics.sony.com/airpeak/p/arss1/>

Note

- To use the “Airpeak Base” App, you must accept the terms of use and privacy policy.
- “Airpeak Flight,” “Airpeak Base,” “Airpeak Plus,” and any other Airpeak or third-party network services, content, operating systems, or software are subject to terms and conditions and may be changed, interrupted, or discontinued at any time. Fees, registration, and credit card information may also be required.

The “Airpeak Base” App Home page

The items displayed on the App Home page are described below. Some functions of this app may include paid services.



1. Project name
2. Project information
Displays information such as flight date, flight duration, progress, etc.
3. [Notifications]
4. [User Guide]
Click to view the User Guide.

5. Account icon
Click to display the menu. You can edit your profile, change units and plans, etc.
6. < / > (Project selection)
Switches the project displayed on the App Home page.
7. [Devices]
Click to display the [Devices] screen. Based on the log information from the “Airpeak Flight” App, the aircrafts and remote controllers used for flights are automatically displayed and can be managed.
8. [Projects]
Click to display the [Projects] screen. You can manage a flight plan consisting of multiple missions and geofences as a project.
9. [Logbook]
Click to display the [Logbook] screen. You can check flight logs that record the flight path, speed, etc. of past flights.

Related Topic

- [Setting the flight area for a project](#)
- [Setting geofences](#)
- [Creating a Timeline Mission](#)
- [Checking flight logs in the “Airpeak Base” App](#)
- [Creating a new Timeline Mission using a flight log](#)

Airpeak S1
ARS-S1

Installing the “Airpeak Flight” App

Before using this product, you will need to download and install the dedicated app “Airpeak Flight” on your mobile device. The “Airpeak Flight” App is available for downloading and installation as shown below.



<https://electronics.sony.com/airpeak/mobileapp>

Note

- To use the “Airpeak Flight” App, you must accept the terms of use and privacy policy. Carefully read and agree to the terms of use and privacy policy displayed during the initial setup process before proceeding.
- “Airpeak Flight,” “Airpeak Base,” “Airpeak Plus,” and any other Airpeak or third-party network services, content, operating systems, or software are subject to terms and conditions and may be changed, interrupted, or discontinued at any time. Fees, registration, and credit card information may also be required.

Related Topic

- [Features of the “Airpeak Flight” App](#)

Airpeak S1
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Signing in to the “Airpeak Flight” App

A Sony account and an internet connection are required when setting up the aircraft.

1 Start the “Airpeak Flight” App.

The initial setup screen is displayed. Tap [Next] to begin the initial setup process.

2 Follow the on-screen instructions to create a Sony account.

After you submit a request to create a new account with the basic information you entered, such as your user ID (email address) and password, you will receive a message by email for email address validation. Follow the instructions in the email to finish creating the account.

You can also sign in with a Sony account if you have one.

3 Sign in to the “Airpeak Flight” App.

Sign in with the user ID and password you specified when creating your account. After signing in, follow the on-screen instructions to set up the remote controller and aircraft.

Note

- If more than 30 days elapse following sign-in with no subsequent connection to the internet, you will be signed out automatically. To use the “Airpeak Flight” App, you will need to connect to the internet and sign in again. Keep this in mind if you will be in an environment where you cannot connect to the internet for an extended period of time.

Airpeak S1
ARS-S1

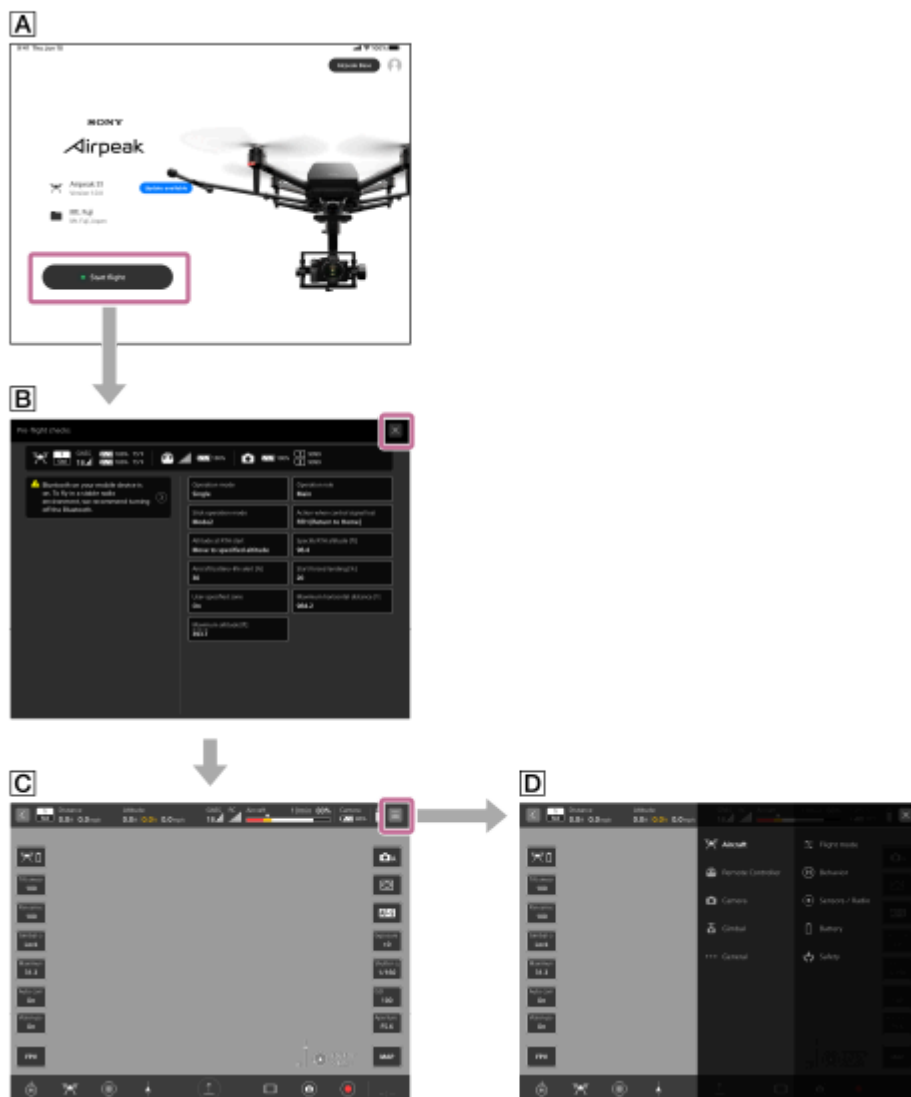
Features of the “Airpeak Flight” App

“Airpeak Flight” is an application that allows you to manage the operations and settings of the aircraft, remote controller, and camera (sold separately) in an integrated way.

It supports a wide range of operations, from checking the status of the aircraft such as the flight distance and remaining battery power to changing the settings of the camera in the sky. In addition to manual flight, automatic flight can also be set. During a mission flight, you can check the flight path, execute the mission, and check the status of the aircraft and other devices in flight with this app.

The display examples in this Help Guide are for when using a tablet device.

Screen flow of the “Airpeak Flight” App



A App Home page

This page is displayed when you start the app. When you launch the app for the first time, the initial setup screens are displayed before the App Home page is displayed.

B Pre-flight check screen

When the app is connected to the aircraft, the pre-flight check screen will be displayed before the flight screen appears. You can confirm the status and major setting values for the aircraft, remote controller, and camera.

Notifications will be displayed if there are any warnings.

C Flight screen

You can perform the flight and shooting operations. The items displayed on the screen change depending on the usage conditions and settings.

D Setting menu

You can configure the aircraft, remote controller, camera, gimbal, RTK kit, and “Airpeak Flight” App.

App Home page



1. [Airpeak Base]
Tap to launch the “Airpeak Base” App in your browser.
2. Account icon
Check the account information for sign-in from the menu displayed by tapping this icon.
3. Update notifications
Notify when updates to the system software, etc. are required before flight.
4. Connection status of the devices
Displays the connection status of the aircraft and remote controller.
5. Project information
Displays the project name and flight location of the selected project. The project selection screen appears when you tap on the information.
6. [Start flight]
Tap to display the flight screen. [Show flight screen] is displayed instead when the aircraft is not connected to the “Airpeak Flight” App.

Related Topic

- [Installing the “Airpeak Flight” App](#)
- [Signing in to the “Airpeak Flight” App](#)
- [Relationship between the remote controller and the flight screen](#)
- [Updating the system software](#)

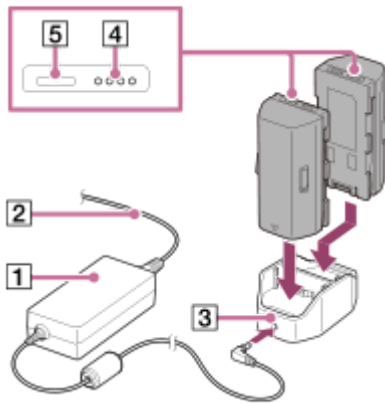
Airpeak S1
ARS-S1

Charging the batteries

Before using this product, charge the aircraft battery packs and built-in remote controller battery.

Charging the aircraft battery packs

The following is a procedure using the included LBP-HS1 battery packs. You can also use LBP-HM1 battery packs (sold separately) with this product.



1. Connect the power cord ([2]) to the AC adapter for battery charger ([1]).
2. Connect the AC adapter to the power port ([3]) of the battery charger.
3. Place the battery packs in the battery charger.
The battery charger can hold two battery packs and will charge the second one after the first one is charged. Both cannot be charged at the same time.
4. Firmly insert the plug of the power cord ([2]) into the wall outlet.
The battery level LEDs of the battery pack ([4]) flash during charging and go off when the battery pack is fully charged.

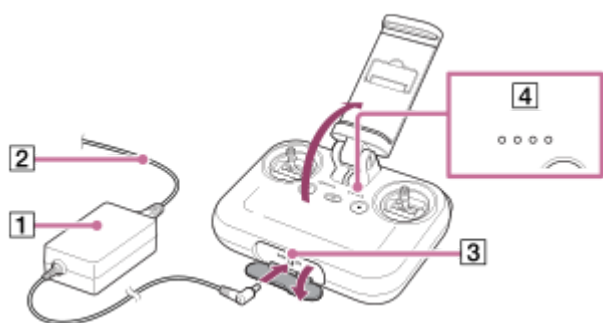
To check the battery level

You can check the battery level by pressing the battery level button on each battery pack ([5]).

Note

- It may take about 20 seconds before charging begins. Wait until the battery level LEDs start flashing.
- A safety mechanism prevents charging when battery packs are hot or cold. Charging begins automatically once battery packs can be charged at room temperature.
- If the difference between the remaining battery level in the two battery packs is 20% or more, the aircraft motor will not start.

Charging the built-in remote controller battery



1. Connect the power cord ([2]) to the AC adapter for remote controller ([1]).
2. Open the power port cover of the remote controller and connect the AC adapter to the power port ([3]).
3. Firmly insert the plug of the power cord ([2]) into the wall outlet.
The battery level LEDs ([4]) flash during charging and go off when the battery is fully charged.

To check the battery level

You can check the battery level by pressing the  (Power) button on the remote controller once.

Related Topic

- [If you cannot charge the aircraft battery pack](#)
- [Loading battery packs in the aircraft](#)

Airpeak S1
ARS-S1

If you cannot charge the aircraft battery pack

All of the battery level LEDs on the battery pack may blink or stay turned off when the battery pack is first charged in cases such as the following. If this happens, remove the battery pack from the battery charger and then recharge it.

- Immediately after purchase
- The battery pack has been left for a long time.
- The battery pack has been left inserted into a device for a long time.

Note that if all of the battery level LEDs blink or stay turned off even when the battery pack is charged for a second time, a battery pack or battery charger abnormality may have occurred. Stop using them and contact your Sony dealer.

Related Topic

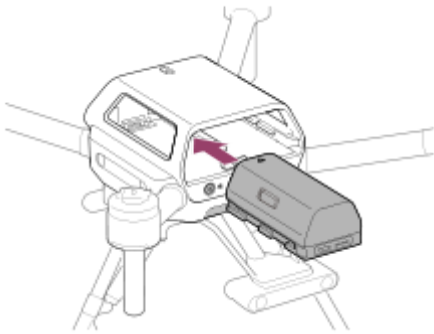
- [Charging the batteries](#)

Loading battery packs in the aircraft

Load the two battery packs in battery slots 1 and 2 at the rear of the aircraft.

1 Load the battery packs in the aircraft.

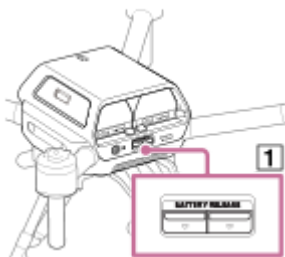
Insert firmly until the battery packs click and lock into place.



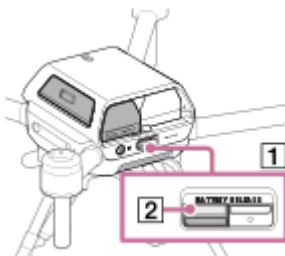
2 Confirm that the battery packs are loaded correctly.

Battery packs are not loaded correctly if a yellow line (2) is visible and the BATTERY RELEASE lever (1) has not returned to the original position. Firmly insert battery packs all the way in.

Loaded correctly

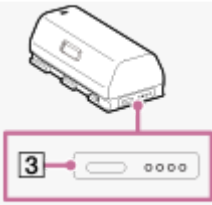


Loaded incorrectly



Note

- The included battery packs are LBP-HS1 battery packs. Do not use them together with LBP-HM1 battery packs (sold separately). To identify the model number of the battery packs, check the color of the border (3) around the battery level button and battery level LEDs. It is black for LBP-HS1 and gray for LBP-HM1.



Hint

- Battery levels can be checked by pressing the battery level button on each battery pack. Before flights, be sure to confirm that the battery levels are enough for the flights you have planned.
- To unload a battery pack, press the BATTERY RELEASE lever and remove it.

Related Topic

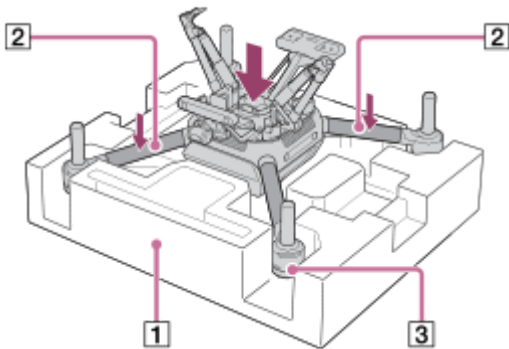
- [Charging the batteries](#)

5-027-737-12(7) Copyright 2021 Sony Group Corporation

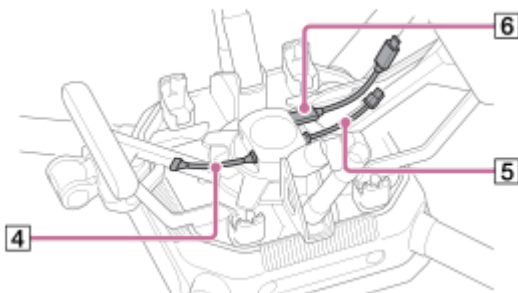
Connecting cables to the aircraft

- 1 Remove the top cushioning (1) from the outer box and place it on a flat surface. Holding the aircraft securely by the frame arms (2), place it upside down on the cushioning.

Be careful to keep the propeller attachment points (3) of each motor off the surface.

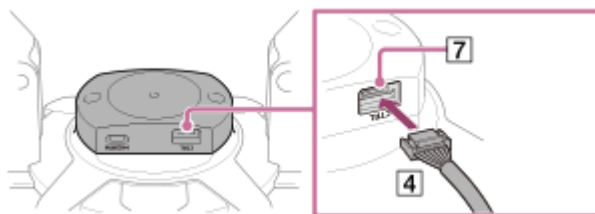


- 2 Connect the cables to the connection hub on the aircraft.



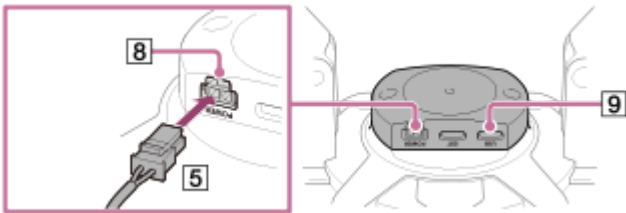
- 4 Control cable (aircraft — gimbal)
- 5 Power cable (aircraft — gimbal)
- 6 USB Type-C® cable (aircraft — gimbal)

Front of aircraft



- Connect the control cable (aircraft — gimbal) (4) to the control port (7). Insert fully until the plug locks into place.

Rear of aircraft



- Connect the power cable (aircraft — gimbal) ([5]) to the POWER port ([8]).
Insert fully until the plug locks into place.
- Connect the USB Type-C[®] cable (aircraft — gimbal) ([6]) to the USB port ([9]).
You can also connect the USB Type-C[®] cable (aircraft—gimbal) to the EXT port.

Related Topic

- [Attaching the damping plate to the aircraft](#)

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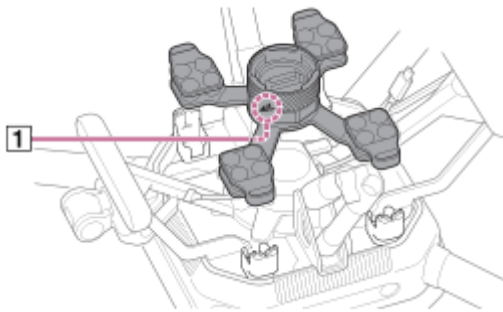
Airpeak S1
ARS-S1

Attaching the damping plate to the aircraft

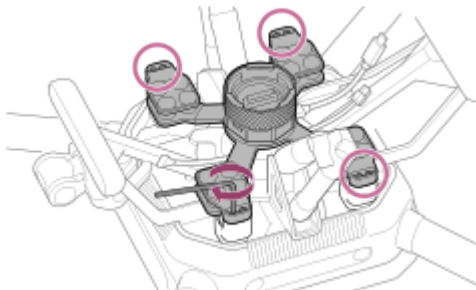
The damping plate (with the quick-release pre-installed), hex wrench, and hex screws are included in the gimbal set (sold separately).

1 Attach the damping plate to the aircraft.

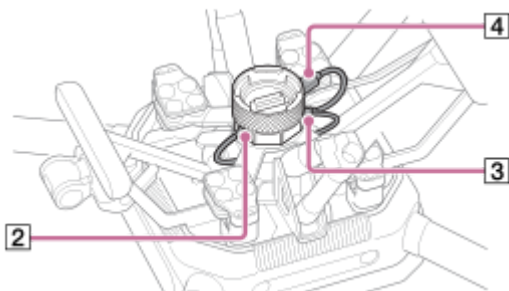
1. Perform the operations described in “[Connecting cables to the aircraft.](#)”
2. Orient the damping plate so that the quick-release arrow (1) surface faces down and the arrow points toward the front of the aircraft.



3. While maintaining the same orientation, place the damping plate on the attachment points of the aircraft.
4. Use the hex wrench (H2.5 mm) and hex screws included in the gimbal set (sold separately) to attach the damping plate at two positions on each leg (eight in total).

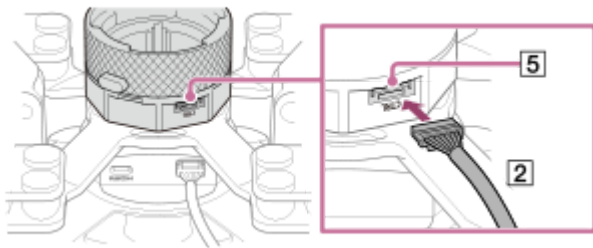


2 Insert the plugs at the other ends of the cables connected to the aircraft in the corresponding quick-release ports.



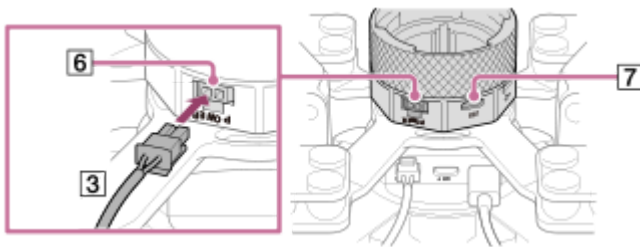
- 2 Control cable (aircraft — gimbal)
- 3 Power cable (aircraft — gimbal)
- 4 USB Type-C® cable (aircraft — gimbal)

Front of aircraft



- Connect the control cable (aircraft — gimbal) (2) to the control port (5). Insert fully until the plug locks into place.

Rear of aircraft



- Connect the power cable (aircraft — gimbal) (3) to the POWER port (6). Insert fully until the plug locks into place.
- Connect the USB Type-C® cable (aircraft — gimbal) (4) to the USB port (7).

Note

- Tighten the screws firmly using the hex wrench included in the gimbal set (sold separately). Otherwise, the screws may loosen and detachment may occur during flight.
- When using tools other than the hex wrench included in the gimbal set (sold separately), be sure to tighten the screws with a torque of 1.5 ± 0.5 Nm.

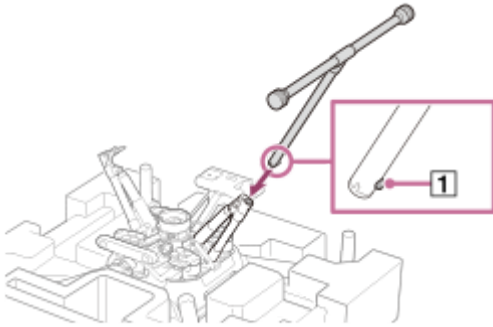
Related Topic

- [Mounting the gimbal GBL-T3 on the aircraft](#)

Attaching landing gear

1 Perform the operations described in “Attaching the damping plate to the aircraft.”

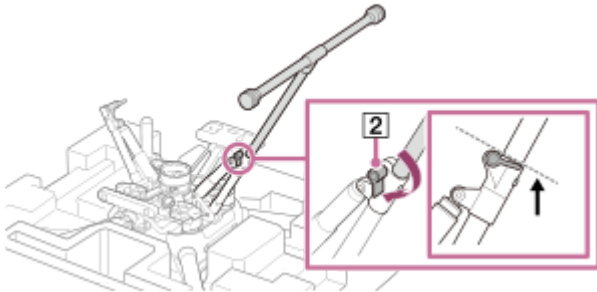
2 Press in the ball detent (1) and insert the landing gear.



Make sure that the ball detent (1) is fully engaged.

3 Turn the lever (2) to lock the landing gear.

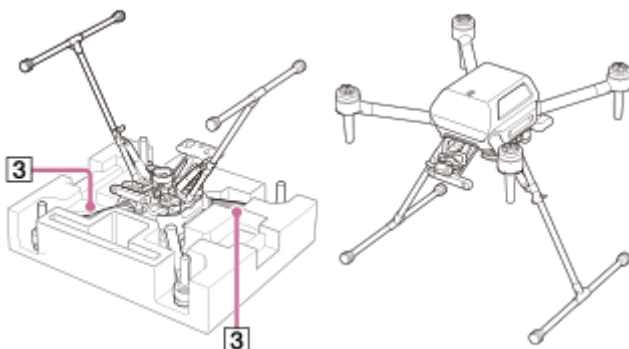
Turn both landing gear levers (2) below the dotted line as shown below.



4 Repeat steps 2 and 3 to attach the other landing gear.

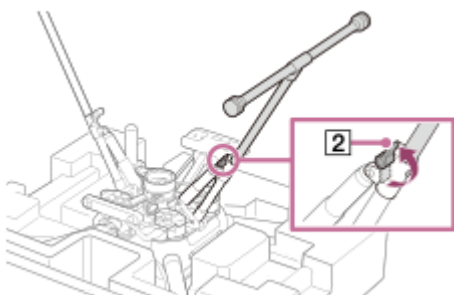
5 Turn the aircraft over.

Holding the aircraft securely by two frame arms (3), turn it over.

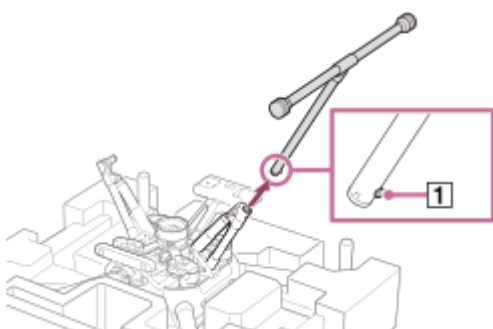


To remove the landing gear

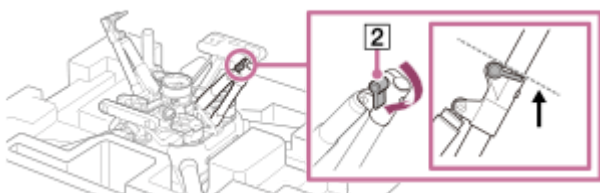
1. Remove the top cushioning from the outer box and place it on a flat surface. Holding the aircraft securely by the frame arms, place it upside down on the cushioning.
Be careful to keep the propeller attachment points of each motor off the surface.
2. Turn the landing gear lever (2) to unlock it.



3. Press in the ball detent (1) and remove the landing gear.



4. Turn the landing gear levers (2) until they are positioned in place.
When storing the aircraft in the outer box, turn both landing gear levers (2) below the dotted line as shown below.



Attaching the propellers

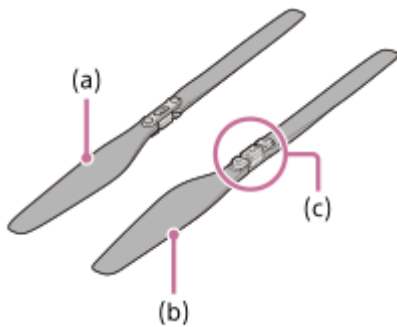
The aircraft uses two types of propellers: clockwise (CW) and counterclockwise (CCW) propellers, which rotate in different directions. Using the hub color as a guide, attach propellers with hubs of the same color. When attaching/removing the propellers, make sure that the aircraft is turned off and be careful not to get injured by the edges.

1 Make sure the aircraft is off.

Confirm that the power status LED on the aircraft is off.

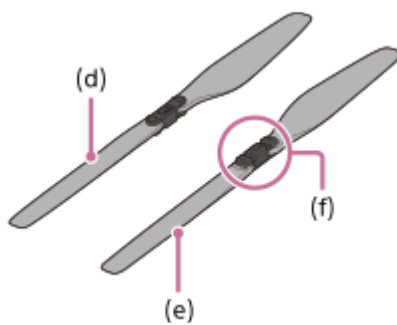
2 Check the propeller hub.

Propeller (CW)



- (a) Top side of the propeller
- (b) Underside of the propeller
- (c) Hub (silver)

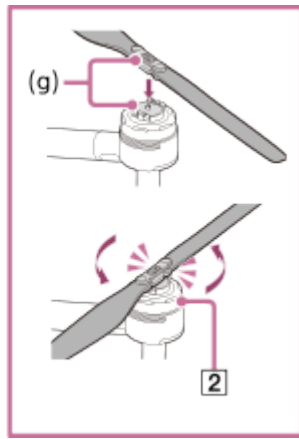
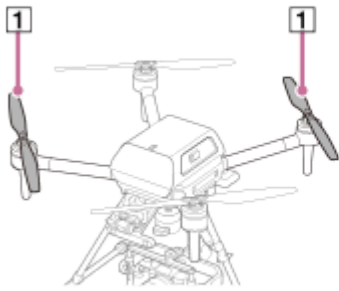
Propeller (CCW)



- (d) Top side of the propeller
- (e) Underside of the propeller
- (f) Hub (black)

3 Attach the propellers (CW) (1) to the motors with silver hubs (2).

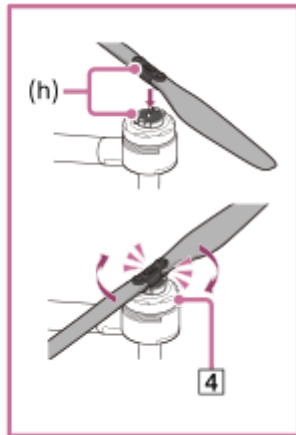
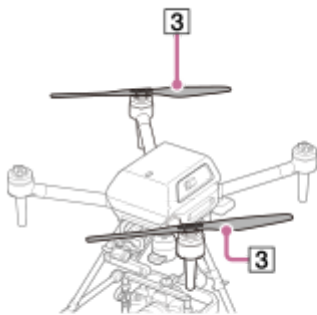
Place the propeller on the propeller attachment point and turn the propeller counterclockwise until it clicks into place. Hold the motor (2) firmly in place with your other hand to prevent it from turning.



(g) Silver

4 Attach the propellers (CCW) (3) to the motors with black hubs (4).

Place the propeller on the propeller attachment point and turn the propeller clockwise until it clicks into place. Hold the motor (4) firmly in place with your other hand to prevent it from turning.



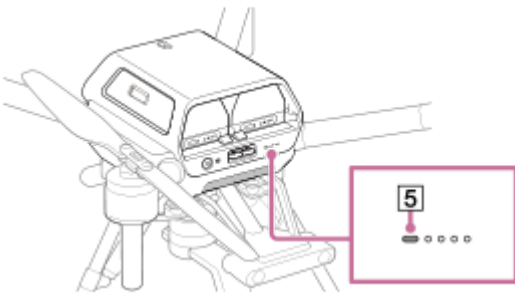
(h) Black

Note

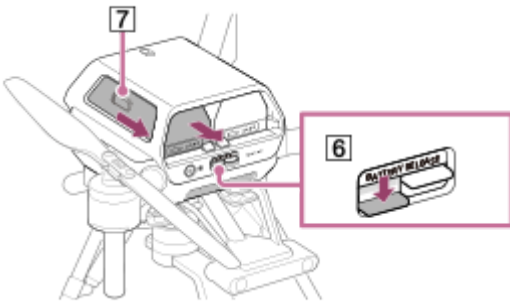
- Before each flight, confirm that the propellers are securely attached.
- If you do not hear a clicking sound when attaching the propellers, the propellers may not have been attached properly and pose a risk of crash. Refrain from using the aircraft and contact Sony Customer Support.
- If the sliding part of the propeller attachment point does not move smoothly, the propeller may fall off during flight and pose a risk of crash. Refrain from using the aircraft and contact Sony Customer Support.
- Before attaching the propellers, make sure that the stickers on the motors are not damaged. If the stickers on the motors are peeled off or the adhesive layers of the stickers are exposed, the propellers may not have been attached properly and pose a risk of crash. Refrain from using the aircraft and contact Sony Customer Support.

To remove the propellers

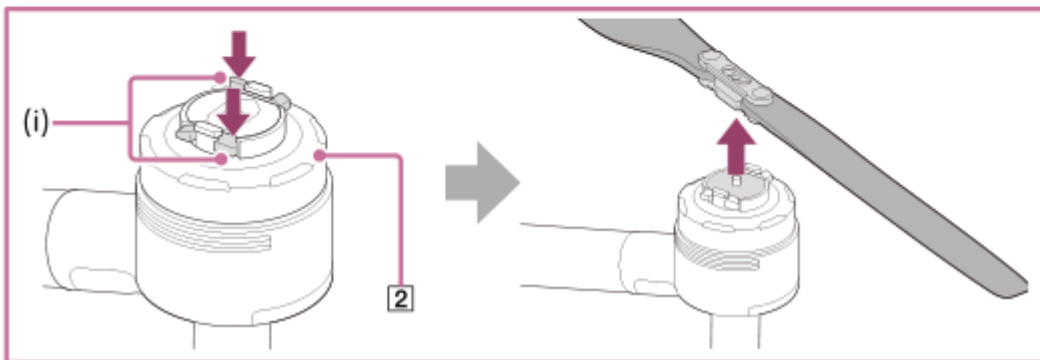
1. Make sure the aircraft is off.
Confirm that the power status LED (5) on the aircraft is off.



2. While pressing the BATTERY RELEASE levers (6), push out the projecting parts on the sides of the battery packs (7) in the directions of the arrows to remove both battery packs.
Press the BATTERY RELEASE levers carefully so that the battery packs do not hit your fingers. Battery packs are still hot immediately after use. Handle with care. Also, be careful not to drop the battery packs.

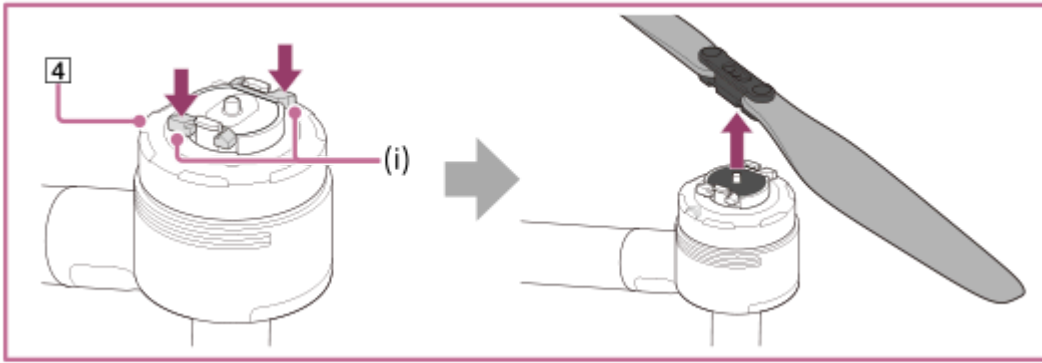
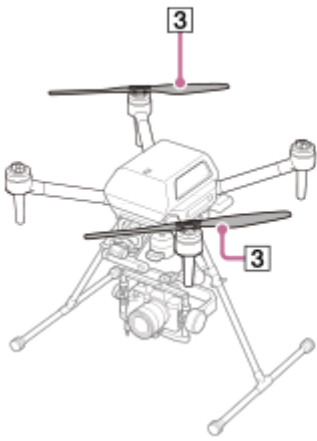


3. Remove the propellers (CW) (1).
Press the propeller hub against the sliding part of the motor and turn the propeller clockwise to remove it. Hold the motor (2) firmly in place with your other hand to prevent it from turning.



(i) Sliding part of the motor

4. Remove the propellers (CCW) (3).
Press the propeller hub against the sliding part of the motor and turn the propeller counterclockwise to remove it.
Hold the motor (4) firmly in place with your other hand to prevent it from turning.



(i) Sliding part of the motor

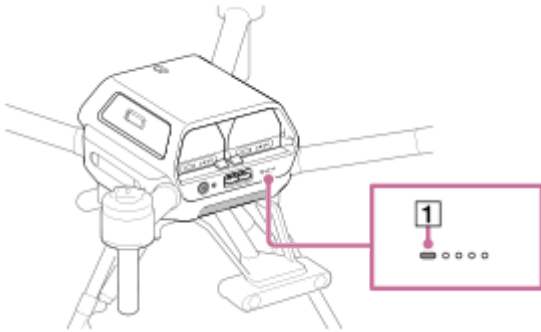
Note

- Be careful not to touch the motor and its surrounding parts as they become hot after use. There is a risk of burns.

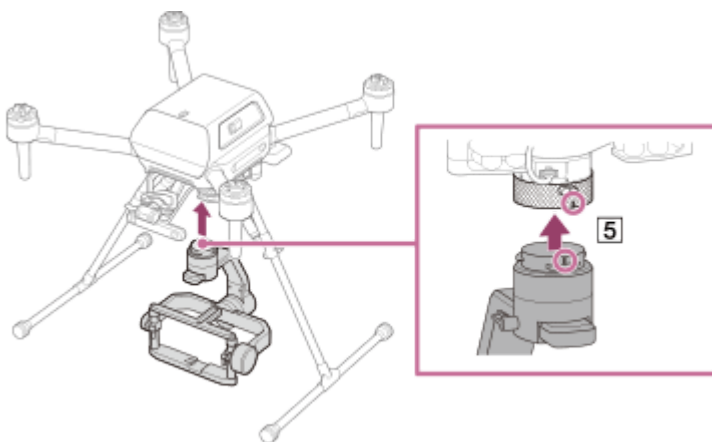
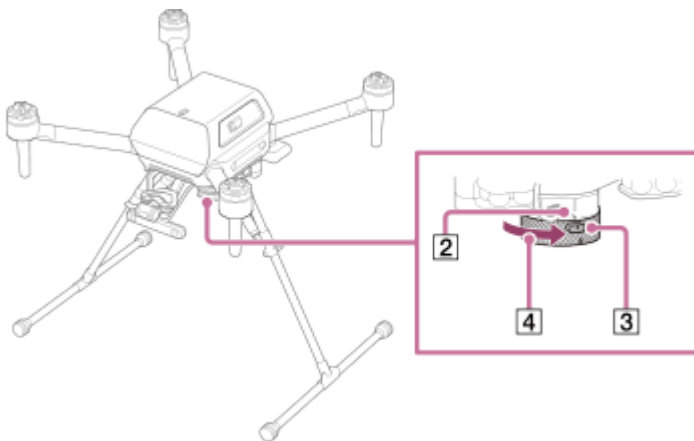
Mounting the gimbal GBL-T3 on the aircraft

1 Make sure the aircraft is off.

Confirm that the power status LED ([1]) on the aircraft is off.

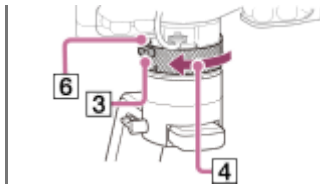


2 Turn the ring ([4]) until the white circle on the gimbal detach button ([3]) is aligned with the Unlock ([2]) symbol, and then attach the gimbal straight using the mark ([5]) on the quick-release as a landmark.




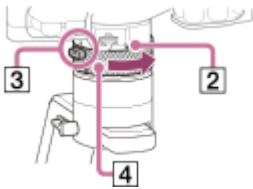
3 Turn the ring ([4]) toward the Lock ([6]) symbol.

Confirm that the Lock ([6]) symbol and the white circle on the gimbal detach button ([3]) are aligned and that the gimbal detach button ([3]) has returned to the original position.



To remove the gimbal

1. Make sure the aircraft is off.
2. Hold down the gimbal detach button (3) on the quick-release and turn the ring (4) toward  (Unlock) (2). The gimbal will come off the quick-release.



Note

- Hold the gimbal with both hands when removing it. The gimbal or camera may be scratched or damaged if the gimbal rotates or drops.
- Be sure to remove the gimbal after use. Leaving it attached to the aircraft may damage the damping rubber of the damping plate.

Related Topic

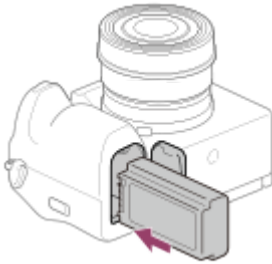
- [Attaching the damping plate to the aircraft](#)

Airpeak S1
ARS-S1

Configuring settings on the camera

Prepare the camera before mounting it on the gimbal. (Both the camera and gimbal are sold separately.)
The following is a sample procedure using an ILCE-7RM5 camera.

1 Open the battery cover and insert a battery pack.



2 Open the memory card cover and insert a memory card.



3 Configure the following setting items on the camera.

For setting instructions, refer to the camera operating instructions or online Help Guide (Web manual).

- [PC Remote Function] – [PC Remote]: [On]
- [PC Remote Function] – [Still Img. Save Dest.]:
 - [PC+Camera]: Captured still images are saved to the camera. The thumbnail functions for captured still images are available in the “Airpeak Flight” App.
 - [Camera Only]: Captured still images are saved only to the camera. The thumbnail functions for captured still images are not available in the “Airpeak Flight” App.
- [Ctrl w/ Smartphone] – [Ctrl w/ Smartphone]: [Off]
- [USB Power Supply]: [Off]
- [File Format]: [RAW + JPEG] or [JPEG]

Note

- During flights, cameras consume battery power as you shoot. Always charge the camera battery sufficiently before mounting on the gimbal.
- Use memory cards with sufficient free space for recording images.
- Make sure that the camera's battery cover is securely closed and locked.
- Be sure to set the Bluetooth function of the camera to [Off]. If it is set to [On], it may affect the wireless transmission function.

- To display thumbnails of the captured still images in the “Airpeak Flight” App, set [General] – [Display/Voice] – [Image thumbnail] – [Show thumbnail] to [On] in the setting menu of the “Airpeak Flight” App.
- Position information is not assigned to captured still images. If you are using the RTK kit (sold separately), use the geotags stored on the SD memory card of the RTK kit, or export geotags using the “Airpeak Base” App and use them.

Hint

- When the camera is attached to the gimbal and operated, the eye sensor of the camera may react, and the monitor may turn off/on. You can keep the monitor off or on at all times by selecting a setting other than [Auto] for [Select Finder/Monitor] on the camera.

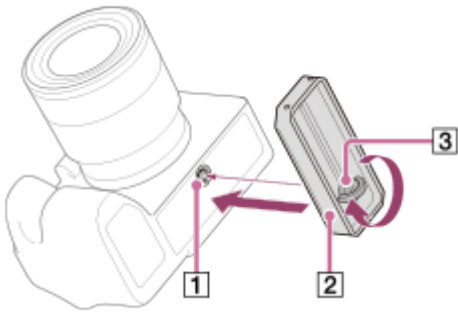
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Mounting a camera on the gimbal GBL-T3

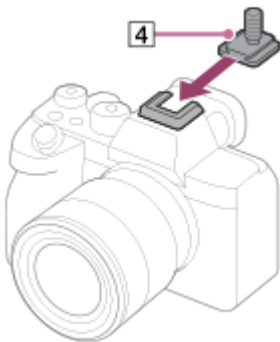
The camera plate, hot shoe adapter, and top camera screw are included in the gimbal GBL-T3 set (sold separately).

- 1 Attach the camera plate (2) to the tripod socket (1) on the bottom of the camera.**

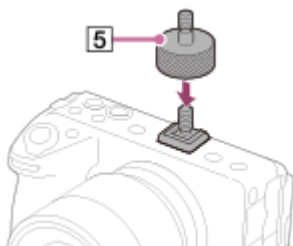
Tighten the thumbscrew (3) to secure it firmly.



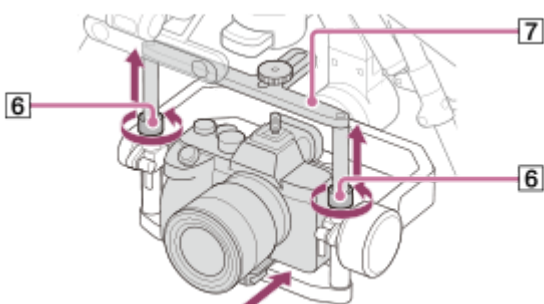
- 2 Attach the hot shoe adapter (4) to the camera.**



When using a camera with a short height such as the ILME-FX3 or ILCE-7C, attach the hot shoe extension (5) to the hot shoe adapter. The hot shoe extension is included in the gimbal GBL-T3 set (sold separately).

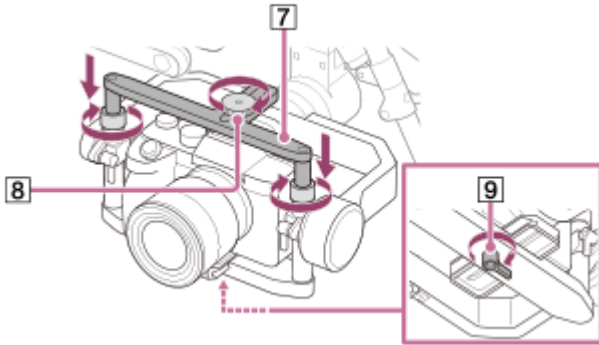


- 3 Place the camera in the gimbal.**



1. Loosen the locking screws ([6]) on both sides of the gimbal frame.
2. Extend the tilt top bar ([7]) to make it higher.
3. Place the camera in the gimbal from the front. Slide the camera plate attached to the camera into the groove on the bottom part of the frame.

4 Secure the camera in the gimbal.



1. Lower the tilt top bar ([7]), and then tighten the locking screws ([6]) on both sides.
2. Tighten the top camera screw ([8]) on the hot shoe adapter screw.
3. Tighten the lever ([9]) on the bottom of the frame to secure the camera.

Related Topic

- [Configuring settings on the camera](#)
- [Connecting cables between the camera and gimbal GBL-T3](#)

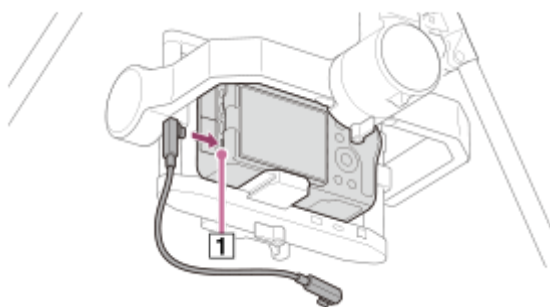
Airpeak S1
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Connecting cables between the camera and gimbal GBL-T3

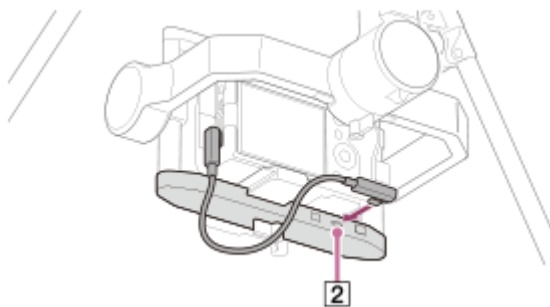
Use the included USB cable to connect ports on the camera and gimbal.

- 1 Insert the plug of the included USB Type-C[®] cable (gimbal — camera) or micro USB cable (gimbal — camera) in the camera USB port (1).

Connect the USB cable that matches your camera port.



- 2 Insert the other end of the USB cable connected to the camera in the gimbal USB port (2).



Note

- Positions of camera ports vary by camera.
- If you adjust the tilt axis of the gimbal, the USB cable may come into contact with the frame of the gimbal. Route the USB cable so that it does not come into contact with the gimbal frame.

Related Topic

- [Mounting a camera on the gimbal GBL-T3](#)

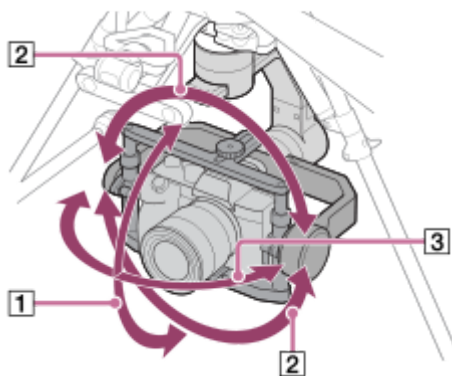
Adjusting the balance of the gimbal GBL-T3

Preparation

- Confirm that the camera lens cap is removed.
- Confirm that the camera and gimbal are connected using the USB cable.
- Turn on the camera to avoid movements of the focus unit in the lens.
- When using a compatible zoom lens, set the focal length to the telephoto end (only when adjusting the balance).
- Confirm that the aircraft is turned off.
- Confirm that you have installed all the accessories you want to use.

To adjust the balance

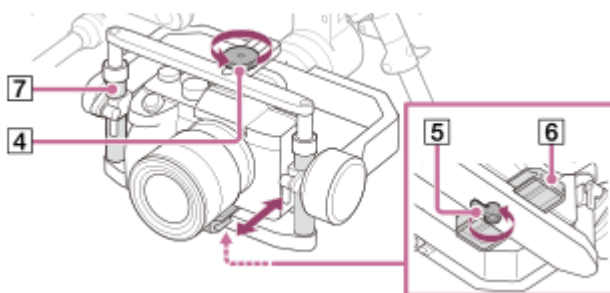
Adjust the balances of the tilt (1), roll (2), and pan (3) axes.



1 Adjust the balance of the tilt axis.

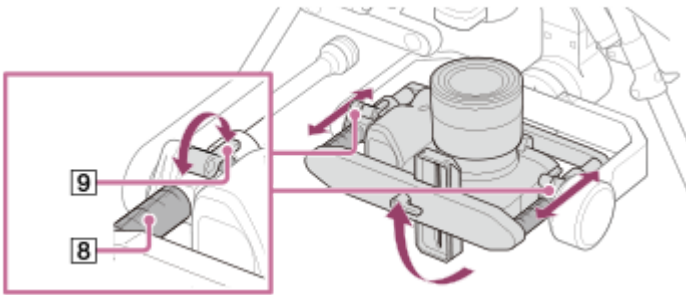
Adjust the horizontal and vertical balances of the tilt axis.

Horizontal balance adjustment of the tilt axis



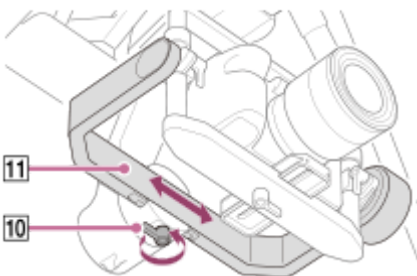
1. Loosen the top camera screw (4) and bottom lever (5), and then slide the camera plate (6) forward or backward to adjust the balance.
2. After adjusting the balance, firmly tighten the top camera screw (4) and bottom lever (5).
3. Rotate the tilt frame (7) by about $\pm 15^\circ$ to check if the balance is adjusted properly.
If properly adjusted, the tilt frame (7) will stay still or return to the horizontal position.

Vertical balance adjustment of the tilt axis



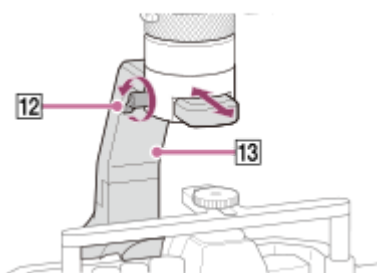
1. Rotate the gimbal tilt frame ([8]) to aim the camera lens upward.
2. Loosen the levers ([9]) on both sides and slide the tilt frame ([8]) back and forth to adjust the balance. Adjust so that the left and right adjusters are at the same level.
3. After adjusting the balance, firmly tighten the levers ([9]) on both sides.
4. Rotate the tilt frame ([8]) by about $\pm 45^\circ$ to check if the balance is adjusted properly. If properly adjusted, the tilt frame ([8]) will stay still.

2 Adjust the balance of the roll axis.

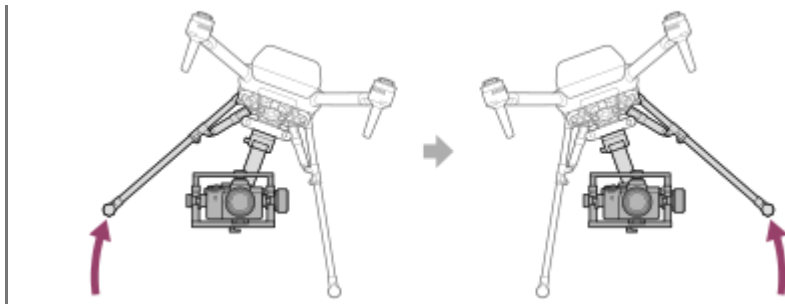


1. Loosen the lever ([10]) and slide the roll frame ([11]) left and right to adjust the balance.
2. After adjusting the balance, firmly tighten the lever ([10]).
3. Rotate the roll frame ([11]) by about $\pm 45^\circ$ to check if the balance is adjusted properly. If properly adjusted, the roll frame ([11]) will stay still.

3 Adjust the balance of the pan axis.



1. Loosen the lever ([12]) and slide the pan frame ([13]) back and forth to adjust the balance.
2. After adjusting the balance, firmly tighten the lever ([12]).
3. With the gimbal stationary, tilt the aircraft forward, backward, left, and right to check if the balance is adjusted properly. If properly adjusted, the pan frame ([13]) will stay still.



Note

- Do not adjust the gimbal balance with the aircraft upside down. Doing so may deteriorate or damage the damping rubber of the damping plate.

Related Topic

- [Connecting cables between the camera and gimbal GBL-T3](#)
- [Adjusting the gimbal parameters](#)

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Adjusting the gimbal parameters

The gimbal parameters need to be adjusted.
Visit the support site for details on adjustment.

When using the GBL-T3

<http://electronics.sony.com/airpeak/p/gblt3/settings>

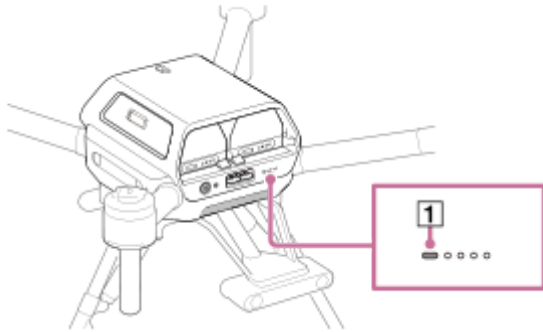
When using the GBL-PX1

<http://electronics.sony.com/airpeak/p/gblpx1/settings>

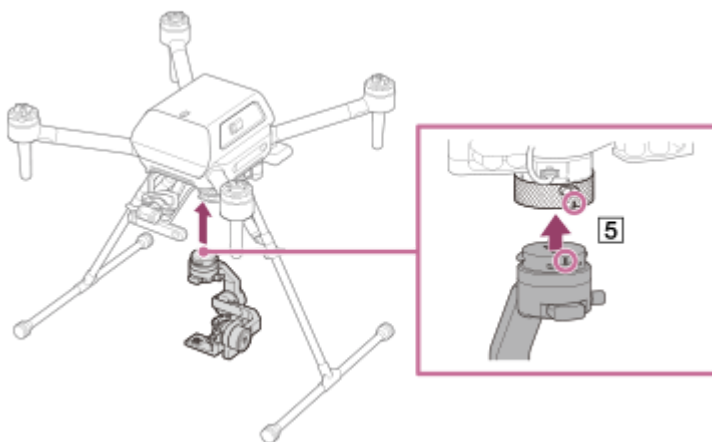
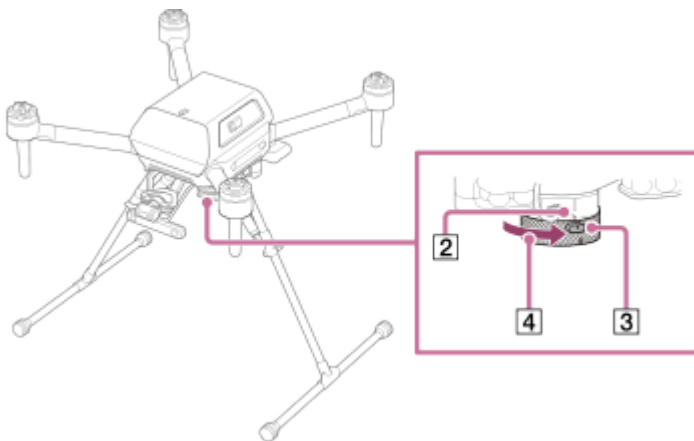
Mounting the gimbal GBL-PX1 on the aircraft

1 Make sure the aircraft is off.

Confirm that the power status LED (1) on the aircraft is off.

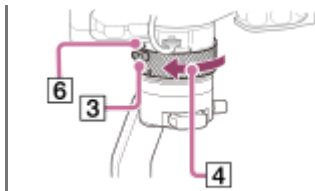


2 Turn the ring (4) until the white circle on the gimbal detach button (3) is aligned with the Unlock (2) icon, and then attach the gimbal straight using the mark (5) on the quick-release as a landmark.




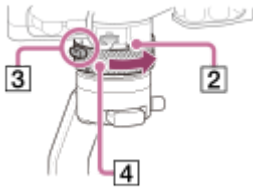
3 Turn the ring (4) toward the Lock (6) icon.

Confirm that the Lock (6) icon and the white circle on the gimbal detach button (3) are aligned and that the gimbal detach button (3) has returned to the original position.



To remove the gimbal

1. Make sure the aircraft is off.
2. Hold down the gimbal detach button (3) on the quick-release and turn the ring (4) toward  (Unlock) (2). The gimbal will come off the quick-release.



Note

- Hold the gimbal with both hands when removing it. The gimbal or camera may be scratched or damaged if the gimbal rotates or drops.
- Be sure to remove the gimbal after use. Leaving it attached to the aircraft may damage the damping rubber of the damping plate.

Related Topic

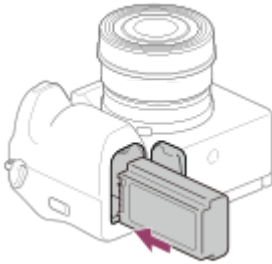
- [Attaching the damping plate to the aircraft](#)

Airpeak S1
ARS-S1

Configuring settings on the camera

Prepare the camera before mounting it on the gimbal. (Both the camera and gimbal are sold separately.)
The following is a sample procedure using an ILCE-7RM5 camera.

1 Open the battery cover and insert a battery pack.



2 Open the memory card cover and insert a memory card.



3 Configure the following setting items on the camera.

For setting instructions, refer to the camera operating instructions or online Help Guide (Web manual).

- [PC Remote Function] – [PC Remote]: [On]
- [PC Remote Function] – [Still Img. Save Dest.]:
 - [PC+Camera]: Captured still images are saved to the camera. The thumbnail functions for captured still images are available in the “Airpeak Flight” App.
 - [Camera Only]: Captured still images are saved only to the camera. The thumbnail functions for captured still images are not available in the “Airpeak Flight” App.
- [Ctrl w/ Smartphone] – [Ctrl w/ Smartphone]: [Off]
- [USB Power Supply]: [Off]
- [File Format]: [RAW + JPEG] or [JPEG]

Note

- During flights, cameras consume battery power as you shoot. Always charge the camera battery sufficiently before mounting on the gimbal.
- Use memory cards with sufficient free space for recording images.
- Make sure that the camera's battery cover is securely closed and locked.
- Be sure to set the Bluetooth function of the camera to [Off]. If it is set to [On], it may affect the wireless transmission function.

- To display thumbnails of the captured still images in the “Airpeak Flight” App, set [General] – [Display/Voice] – [Image thumbnail] – [Show thumbnail] to [On] in the setting menu of the “Airpeak Flight” App.
- Position information is not assigned to captured still images. If you are using the RTK kit (sold separately), use the geotags stored on the SD memory card of the RTK kit, or export geotags using the “Airpeak Base” App and use them.

Hint

- When the camera is attached to the gimbal and operated, the eye sensor of the camera may react, and the monitor may turn off/on. You can keep the monitor off or on at all times by selecting a setting other than [Auto] for [Select Finder/Monitor] on the camera.

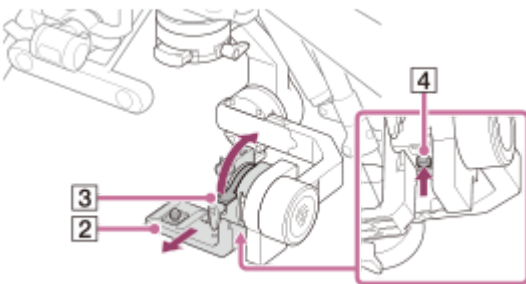
Mounting a camera on the gimbal GBL-PX1

- 1 Remove the shoulder strap attachment (1) from the camera.



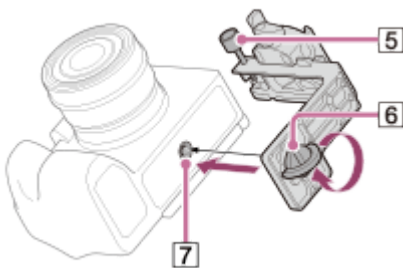
- 2 Remove the L-Bracket (2) from the gimbal.

Loosen the lever (3), and move the L-Bracket forward to remove it while pressing the release button (4) at the bottom.

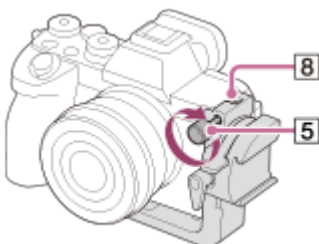


- 3 Loosen the camera fixing screw (5), and temporarily attach the tripod screw (6) on the L-Bracket to the tripod socket (7) on the bottom of the camera.

Make sure there is a gap of about 1 mm between the L-Bracket and the bottom of the camera.

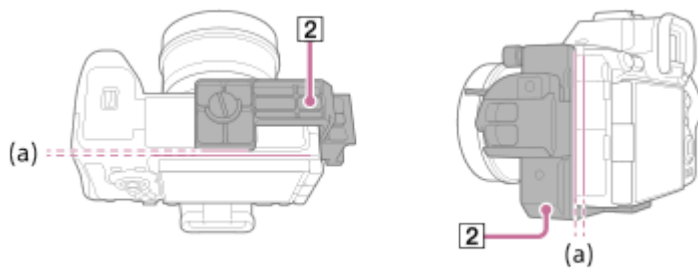


- 4 Pass the camera fixing screw (5) through the hook for the shoulder strap (8) on the camera and secure it.



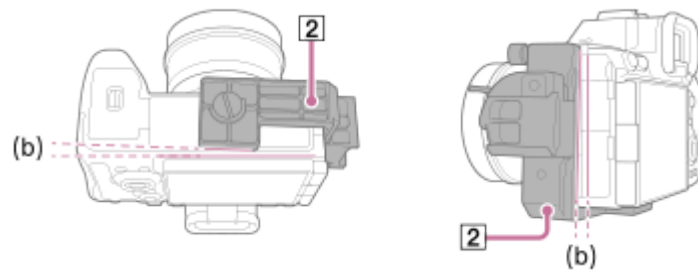
- 5 Adjust the mounting angle so that the L-Bracket (2) and the camera are oriented parallel.

Proper mounting angle (left: view from bottom of camera/right: view from left side of camera)



(a) Parallel

Improper mounting angle (left: view from bottom of camera/right: view from left side of camera)



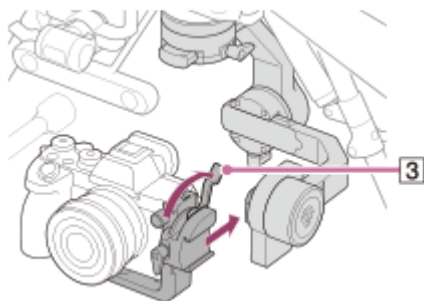
(b) Not parallel

- 6** Fix the camera and L-Bracket so that they are at the mounting angle shown in step 5, and then fully tighten the tripod screw using a coin, etc.



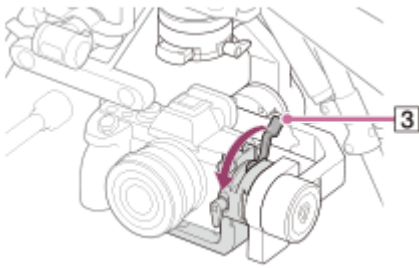
- 7** Place the camera in the gimbal.

Unlock the lever ([3]) and place the camera in the gimbal from the front.



- 8** Secure the camera in the gimbal.

Lock the lever ([3]).



Note

- Be careful not to get your fingers caught when operating the lever.
- Store the shoulder strap attachment securely so as not to lose it.
- Before flights, make sure the camera is firmly secured to the L-Bracket with the tripod screw and camera fixing screw.
- When removing the camera from the L-Bracket, perform the reverse procedure.

Related Topic

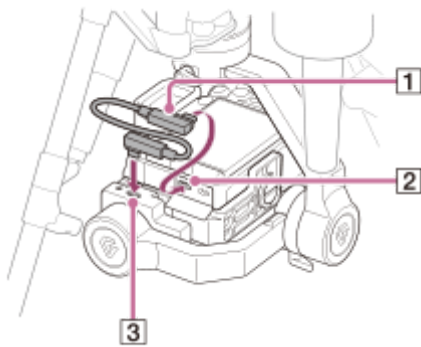
- [Configuring settings on the camera](#)
- [Connecting cables between the camera and gimbal GBL-PX1](#)

Connecting cables between the camera and gimbal GBL-PX1

Use the included USB Type-C[®] cable (gimbal — camera) to connect ports on the camera and gimbal.

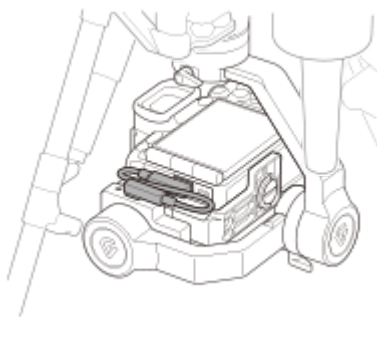
1 Connect the USB Type-C[®] cable (gimbal — camera) (1) to the camera and the gimbal.

Insert the plug of the USB Type-C[®] cable (gimbal — camera) included with the aircraft in the camera USB port (2). Insert the other end of the USB Type-C[®] cable (gimbal — camera) connected to the camera in the gimbal USB port (3).



2 Make sure that the USB Type-C[®] cable (gimbal — camera) is properly connected.

Make sure that the USB Type-C[®] cable (gimbal — camera) is wired in an S shape so as not to interfere with the gimbal.



Note

- If you wire the USB Type-C[®] cable (gimbal — camera) in a U shape, there is a possibility of it coming into contact with the frame while the aircraft is in use. Wire the USB Type-C[®] cable (gimbal — camera) so that it forms an S shape.

Related Topic

- [Mounting a camera on the gimbal GBL-PX1](#)

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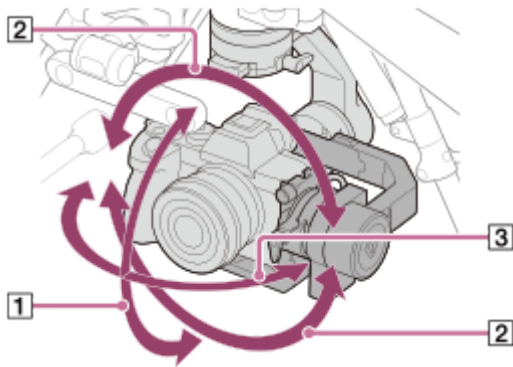
Adjusting the balance of the gimbal GBL-PX1

Preparation

- Confirm that the camera lens cap is removed.
- Confirm that the camera and gimbal are connected using the USB Type-C[®] cable (gimbal — camera).
- Turn on the camera to avoid movements of the focus unit in the lens.
- Confirm that the aircraft is turned off.
- Confirm that you have installed all the accessories you want to use.

To adjust the balance

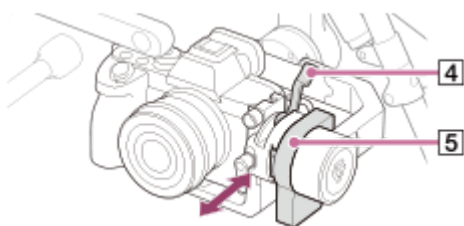
Adjust the balances of the tilt ([1]), roll ([2]), and pan ([3]) axes.



1 Adjust the balance of the tilt axis.

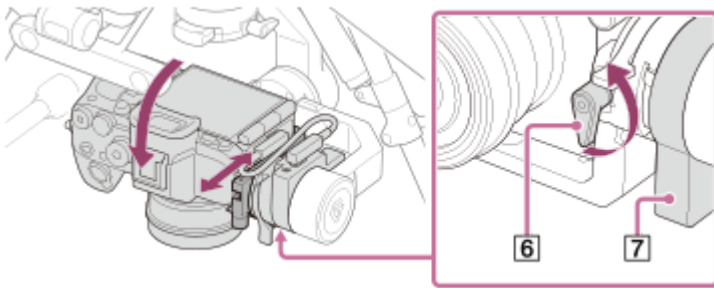
Adjust the horizontal and vertical balances of the tilt axis.

Horizontal balance adjustment of the tilt axis



1. Loosen the lever ([4]), and then slide the L-Bracket forward or backward to adjust the balance.
2. After adjusting the balance, close the lever ([4]) firmly.
3. Rotate the tilt frame ([5]) by about $\pm 15^\circ$ to check if the balance is adjusted properly.
If properly adjusted, the tilt frame ([5]) will stay still or return to the horizontal position.

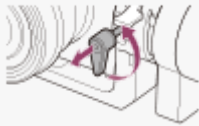
Vertical balance adjustment of the tilt axis



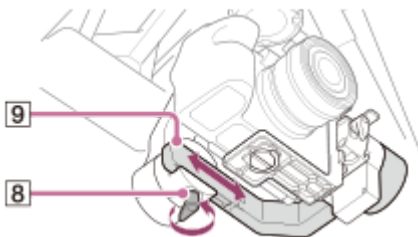
1. Rotate the gimbal L-Bracket to aim the camera lens downward.
2. Loosen the lever ([6]) on the front of the L-Bracket and slide the L-Bracket back and forth to adjust the balance.
3. After adjusting the balance, firmly tighten the lever ([6]).
4. Rotate the tilt frame ([7]) by about $\pm 45^\circ$ to check if the balance is adjusted properly.
If properly adjusted, the tilt frame ([7]) will stay still, or the camera lens will return to facing down.

Hint

- If the lever interferes with surrounding parts, pull the lever toward you and turn it to avoid interference.

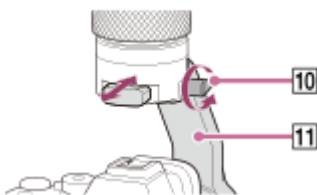


2 Adjust the balance of the roll axis.

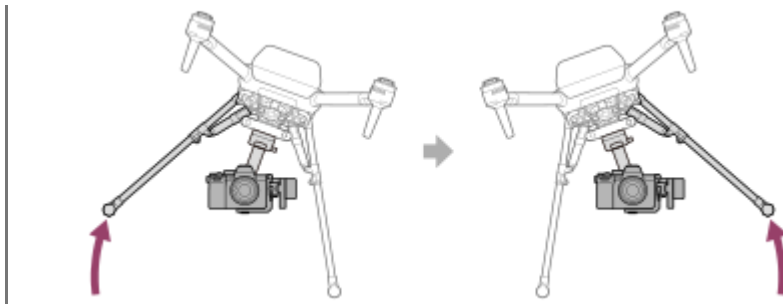


1. Loosen the lever ([8]) and slide the roll frame ([9]) left and right to adjust the balance.
2. After adjusting the balance, firmly tighten the lever ([8]).
3. Rotate the roll frame ([9]) by about $\pm 45^\circ$ to check if the balance is adjusted properly.
If properly adjusted, the roll frame ([9]) will stay still or slowly return to the horizontal position.

3 Adjust the balance of the pan axis.



1. Loosen the lever ([10]) and slide the pan frame ([11]) back and forth to adjust the balance.
2. After adjusting the balance, firmly tighten the lever ([10]).
3. With the gimbal stationary, tilt the aircraft forward, backward, left, and right to check if the balance is adjusted properly.
If properly adjusted, the pan frame ([11]) will stay still.



Note

- Be careful not to get your fingers caught in the tilt frame, roll frame, or pan frame when adjusting the balance of the gimbal.
- Do not adjust the gimbal balance with the aircraft upside down. Doing so may deteriorate or damage the damping rubber of the damping plate.

Related Topic

- [Connecting cables between the camera and gimbal GBL-PX1](#)
- [Adjusting the gimbal parameters](#)

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Adjusting the gimbal parameters

The gimbal parameters need to be adjusted.
Visit the support site for details on adjustment.

When using the GBL-T3

<http://electronics.sony.com/airpeak/p/gblt3/settings>

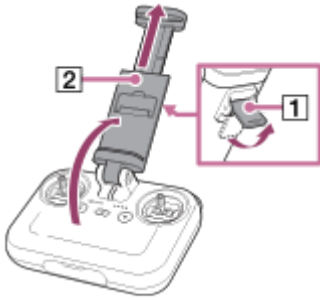
When using the GBL-PX1

<http://electronics.sony.com/airpeak/p/gblpx1/settings>

Attaching a mobile device to the remote controller

On the remote controller, mount the mobile device (tablet or smartphone) on which you have installed the “Airpeak Flight” App.

- 1 Raise the lever (1) on the back and extend the mobile device holder (2).



- 2 Place the mobile device on the mobile device holder and adjust the holder height.



- 3 Lower the lever (1) to secure the mobile device.

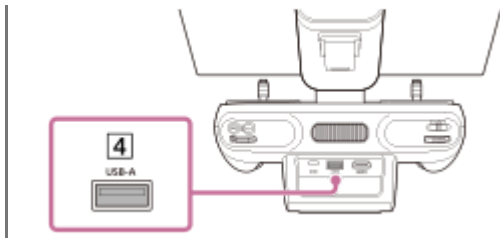


- 4 Stabilize the mobile device holder. Tighten the screw (3) at the base of the holder by turning it with a coin or tool.



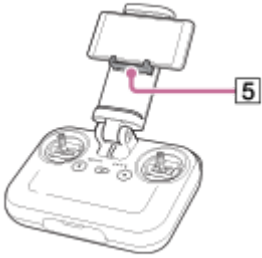
- 5 Connect the cable included with your mobile device to the remote controller USB port (USB-A) (4) and the mobile device port.

If your mobile device did not come with a cable, use another compatible cable.



To mount a smartphone

Raise the smartphone holder (5) in the middle of the mobile device holder, and then mount the smartphone.



Note

- Mobile devices may fall off unless they are correctly secured with the lever.

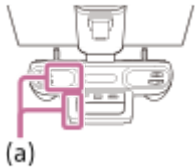
Related Topic

- [Supported mobile devices](#)

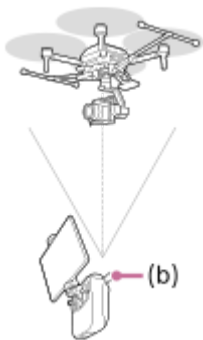
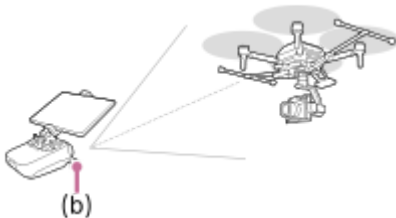
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Cautions when using the remote controller

- When using the remote controller to fly an aircraft, turn off the Wi-Fi[®] and Bluetooth[®] functions of the tablet or other mobile device mounted on the remote controller.
- Take care not to cover the parts containing the built-in antennas (a) with your hand, cables, or other objects.



- Point the handle bar (with built-in antenna) (b) of the remote controller toward the aircraft as shown in the illustrations below.



(b) Handle bar (with built-in antenna)

- If you do not operate the remote controller for 5 minutes while it is turned on, an alarm will go off. After another minute, the remote controller will automatically go into a standby state. You can stop the alarm by performing an operation such as moving the control stick, pressing a button, etc.
- If you notice any damage to the remote controller antenna, contact Sony Customer Support. It may not be possible to operate the aircraft.
- You need to link the remote controller and aircraft when you replace the remote controller or are using a new one.
- When you turn off this product, be sure to turn off the aircraft first and then the remote controller. If you turn off the remote controller while the aircraft is still turned on, you will not be able to operate the aircraft in case it moves accidentally. If this happens, it may cause an accident or damage to the aircraft.

Hint

- If wireless communication is disrupted, try turning off Wi-Fi[®], Bluetooth[®], or other wireless communication functions on your surrounding computers or smartphone.

Related Topic

- [Mounting, connecting, and installing the RTK kit](#)
- [Selecting the wireless channel](#)

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Linking the aircraft and remote controller


Follow the on-screen instructions in the “Airpeak Flight” App to link the remote controller and aircraft and set up the aircraft. The aircraft only needs to be set up the first time.

Preparation

- Confirm that the mobile device mounted on the remote controller is connected to the internet.
- Charge the built-in remote controller battery sufficiently.
- Charge both aircraft battery packs sufficiently.

- 1 On the remote controller, press and hold the  (Power) button for at least 2 seconds to turn on the power.**
After startup, the status LED stops flashing and remains on.
- 2 On the aircraft, press and hold the  (Power) button for at least 2 seconds to turn on the power.**
After startup, the power status LED stops flashing and remains on.
- 3 Start the “Airpeak Flight” App and follow the instructions on the screen to perform [Initial setup].**
- 4 When the [Link remote controller to aircraft] screen is displayed in the “Airpeak Flight” App, tap [Start link].**
The process of linking the remote controller and aircraft will start.
- 5 Within 2 minutes after performing step 4, press and hold the LINK button on the aircraft for 2 seconds.**
Successful linkage is indicated by a remote controller blue status LED (in purple when linked as [Start link] in dual operation mode) and the message [Aircraft and remote controller connected] on the “Airpeak Flight” App screen. If linkage fails, check for obstacles between the aircraft and the remote controller. Move the aircraft and remote controller to avoid obstacles and tap [Retry] to try again.
- 6 After the successful linkage screen displayed, tap [Start using] on the “Airpeak Flight” App screen.**
The aircraft setup will start. When the message [Now the aircraft is ready to fly] is displayed, setup is complete.

To link the remote controller and aircraft by operating the remote controller

If you press and hold the C3 (Custom 3) button and  (Automated flight pause) button on the remote controller at the same time for at least 2 seconds, the linking process between the remote controller and aircraft will start in the same manner as when performed from the “Airpeak Flight” App. Perform the above step 5 and subsequent steps within 2 minutes.

Note

- You can control the aircraft with the remote controller even when the “Airpeak Flight” App and the remote controller are not connected. Be careful not to accidentally operate the aircraft by an unintended operation of the control sticks.

Related Topic

- [Charging the batteries](#)
- [Selecting the wireless channel](#)
- [Controlling the aircraft with two remote controllers \(dual operation mode\)](#)

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Setting the flight mode

There are three flight modes for manual flight: [Std (Speed)], [Vel (Velocity)], and [Alt (Altitude)].

You can select the desired flight mode easily with the flight mode switch on the remote controller.

[Flight mode switch 1] is locked to the [Std (Speed)] mode. The obstacle brake, Vision Positioning, and On Course functions are enabled so that you can fly the aircraft with high safety and stability. You can adjust the horizontal speed of the aircraft by adjusting the tilt of the control sticks on the remote controller. The aircraft will hover when you release the control sticks to return them to the central position.

You can assign the [Vel (Velocity)] or [Alt (Altitude)] mode to [Flight mode switch 2] or [Flight mode switch 3] by following the steps below.

1 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

2 Tap  (Settings) in the top right of the screen.

3 Tap [Aircraft] in the displayed setting menu.

4 Tap [Flight mode].

5 Tap  **2 (Flight mode switch 2) or  **3 (Flight mode switch 3)** to set [Flight mode].**

You can assign the following two modes to the flight mode switch.

- [Vel (Velocity)]: In this mode, you can adjust the horizontal speed of the aircraft by adjusting the tilt of the control sticks on the remote controller. The aircraft will hover when you release the control sticks to return them to the central position.
- [Alt (Altitude)]: In this mode, the flight altitude is maintained. The obstacle brake and Vision Positioning functions are disabled. The aircraft position is not automatically maintained and the aircraft is easily drifted by the wind, so skillful stick operations are required to control the aircraft. You can adjust the tilt angle of the aircraft by adjusting the tilt of the control sticks on the remote controller.

6 Make advanced settings for each flight mode if necessary.

- [Maximum speed] ^(*1): Set the maximum speed. This is limited when the obstacle brake is enabled.
- [Maximum tilt angle [deg]]: Set the maximum tilt angle. This is limited when the obstacle brake is enabled.
- [Maximum ascent/descent speed]: Select the maximum ascent/descent speed.
- [On Course] ^(*1): When this function is enabled, it prevents the aircraft from skidding, makes it easier to fly in the operated direction, and supports smooth circular turning by simply performing turning operations during a straight flight.
- [Acceleration sensitivity] ^(*1): Set the pace at which the speed reaches the set value. The higher the value, the more quickly the set speed will be reached.
- [Yaw rate [deg/s]]: Set the turning speed.
- [Brake sensitivity] ^(*1): Set the brake sensitivity. The higher the value, the harder the brake will work.

*1 [Vel (Velocity)] mode only

7 Slide the flight mode switch of the remote controller to select the number to which you have assigned the desired flight mode.

You can check the currently selected flight mode on the flight screen in the “Airpeak Flight” App.

Hint

- If the aircraft cannot detect position information using positioning satellite systems such as GNSS (Global Navigation Satellite System) or the Vision Positioning function, the flight mode will automatically switch to the emergency Alt. mode. (You will be notified in the “Airpeak Flight” App.) When position detection becomes available again, the flight mode will automatically return to the designated mode.

Related Topic

- [Parts and controls \(Remote controller\)](#)
- [Features of the “Airpeak Flight” App](#)
- [Selecting the operating mode of the control sticks](#)
- [Adjusting the sensitivity of the control sticks](#)
- [Parts for flight operations](#)
- [Flying the aircraft with manual control](#)

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Selecting the wireless channel

If radio-wave conditions are poor, change the wireless channel.

1 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

2 Tap  (Settings) in the top right of the screen.

3 Tap [Aircraft] in the displayed setting menu.

4 Tap [Sensors/Radio].

5 Select [Auto] or [Manual] for [Channel selection method].

- [Auto]: The optimum channel is set automatically.
- [Manual]: Select the desired channel in the [Channel] menu.


You can check the [Noise [dBm]] for each channel on the congestion status graph for the radio wave.


The smaller the noise value, the more stable the wireless transmission function. Check the congestion graph for the radio wave and select a channel with low noise, including adjacent channels.

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Controlling the aircraft with two remote controllers (dual operation mode)

You can link two remote controllers to the aircraft and use them as main and sub controllers (dual operation mode). You can control the aircraft and gimbal or camera with the main controller and control the camera and gimbal with the sub controller.

- 1 Turn off both remote controllers.**
- 2 On the remote controller that you want to use to operate the aircraft, press and hold the  (Power) button for at least 2 seconds to turn the power on.**
- 3 Tap [Start flight] on the “Airpeak Flight” App Home page.**

The flight screen will be displayed.
- 4 Tap  (Settings) in the top right of the screen.**
- 5 Tap [Remote controller] in the displayed setting menu.**
- 6 Tap [Connection].**
- 7 Tap [Main] for [Operation role].**

The first remote controller that was turned on in step 2 above will be set to operate the aircraft (Main). [Operation role] is a setting that assigns the operation target of two remote controllers.

 - [Main]: Assigns the remote controller to operate the aircraft and gimbal or camera. To operate the gimbal or camera, you must first perform control assignment. Select this when operating with a single remote controller.
 - [Sub]: Assigns the remote controller to operate the camera and gimbal.
- 8 Tap [Link] for [Link to aircraft].**

The remote controller you are operating will be linked with the aircraft as the main controller and the status LED will light up in blue.
- 9 Tap [Dual] for [Operation mode].**

The connected aircraft will enter the dual operation mode and be ready to connect to the remote controller that operates the camera and gimbal (Sub). [Operation mode] is a setting that selects the number of remote controllers that can be used simultaneously.

 - [Single]: Connects a single remote controller to the aircraft. The remote controller operates the aircraft, gimbal, and camera.
 - [Dual]: Connects two remote controllers to the aircraft. One of the controllers operates the aircraft and gimbal or camera, while the other operates the camera and gimbal.

- 10 Perform steps 2 to 6 on the remote controller you want to use to operate the camera and gimbal, and then tap [Sub] for [Operation role].**

The second remote controller will be set as the controller to operate the camera and gimbal.

- 11 Tap [Link] for [Link to aircraft].**

The second remote controller will be linked with the aircraft as the sub controller and the status LED will light up in purple.

Hint

- If the second remote controller cannot be linked, turn off the first remote controller, and then reattempt the linking operation.
- The gimbal operations are assigned to the control sticks on the sub controller.
- In the dual operation mode, operations are accepted from the remote controller that operated the gimbal or camera first. Also, when the gimbal or camera is being operated by one of the remote controllers, operations from the other remote controller are not accepted.
- If you want to switch the main and sub controllers, turn off one of the remote controllers, and then change the settings.
- When you reset [Operation mode] to [Single] on the main controller, the sub controller becomes disconnected from the aircraft.

Related Topic

- [Selecting the operating mode of the control sticks](#)
- [Attaching a mobile device to the remote controller](#)
- [Mounting, connecting, and installing the RTK kit](#)

Selecting the operating mode of the control sticks

You can select from among two modes for the aircraft operations assigned to the control sticks on the remote controller. In the dual operation mode, you can select the operating mode of the aircraft with the main controller.

- 1 Tap [Start flight] on the “Airpeak Flight” App Home page.

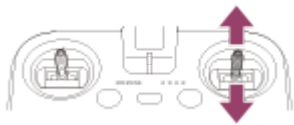




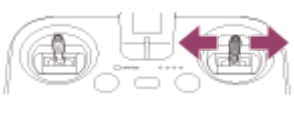

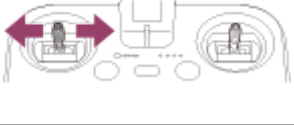
The flight screen will be displayed.

- 2 Tap  (Settings) in the top right of the screen.

- 3 Tap [Remote controller] in the displayed setting menu.

- 4 Tap [Sticks], and then select a mode in the [Stick operating mode] menu.

The operations assigned in each mode are as follows.

Aircraft operation	Mode 1	Mode 2
Changing the altitude of the aircraft	Tilt the right stick up and down. 	Tilt the left stick up and down. 
Moving the aircraft back and forth	Tilt the left stick up and down. 	Tilt the right stick up and down. 
Moving the aircraft left and right	Tilt the right stick left and right. 	Tilt the right stick left and right. 
Turning the aircraft left and right	Tilt the left stick left and right. 	Tilt the left stick left and right. 

- In the dual operation mode, you can select the operating mode of the gimbal with the sub controller.

Related Topic

- [Parts and controls \(Remote controller\)](#)
- [Features of the “Airpeak Flight” App](#)
- [Controlling the aircraft with two remote controllers \(dual operation mode\)](#)
- [Adjusting the sensitivity of the control sticks](#)

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Adjusting the sensitivity of the control sticks

You can adjust the sensitivity of the control sticks on the remote controller near the central position.

1 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

2 Tap  (Settings) in the top right of the screen.

3 Tap [Remote controller] in the displayed setting menu.

4 Tap [Sticks].

5 Set the values for [Output characteristics].

You can set the amount of movement along each axis ([Ascent/Descent speed]/[Left turn/Right turn rate]/[Forward/Backward/Left/Right speed]) with respect to the input from the control sticks.

The closer the value is to 1.00, the less sensitive the sticks will be. The closer the value is to -1.00, the more sensitive the sticks will be.

To prevent the sticks from reacting when you are not touching them, you can set the range within which the sticks do not react in [Dead zone].



Hint

- When you operate the control sticks, the white circle on the chart moves so that you can check the sensitivity level.

Related Topic

- [Parts and controls \(Remote controller\)](#)
- [Features of the “Airpeak Flight” App](#)
- [Selecting the operating mode of the control sticks](#)

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Changing the functions assigned to the custom buttons, lever, or dial on the remote controller

You can change the functions assigned to the custom buttons, control lever, or control dial on the remote controller.

1 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

2 Tap  (Settings) in the top right of the screen.

3 Tap [Remote controller] in the displayed setting menu.

4 Tap [Buttons/Controls].

5 Select the function that you want to assign to one of the custom buttons, the control lever, or the control dial.

- Custom buttons: Tap [Single press] or [Double press], and then select the function to be assigned in the menu for the button.
- Control lever/Control dial: Tap [Standard], and then select a function to be assigned when operating the control lever or control dial only. If you tap [Combination], you can select a function to be assigned when operating the control lever while pressing any of the custom buttons.

Hint

- You can assign different functions for each operation mode (single/dual) of the remote controller.
- When the remote controller is connected to the aircraft, the settings for the operation mode of the connected remote controller are displayed. When the remote controller is not connected to the aircraft, the settings for the single operation mode are displayed.

Related Topic

- [Parts and controls \(Remote controller\)](#)
- [Features of the “Airpeak Flight” App](#)
- [Controlling the aircraft with two remote controllers \(dual operation mode\)](#)

Configuring the gimbal settings

You can configure settings related to the gimbal's movement.

1 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

2 Tap  (Settings) in the top right of the screen.

3 Tap [Gimbal] in the displayed setting menu.

4 Tap [Main control].

5 Set the following items.

- [Gimbal control mode]:



- [Lock]: The camera orientation (shooting direction) will not follow the movement of the aircraft even if the aircraft turns.
- [Follow]: The camera orientation (shooting direction) follows the yaw (left/right) movement of the aircraft, while it will not follow the pitch (up/down) or roll movements.
- [Airplane]: The camera orientation (shooting direction) follows the yaw (left/right) and roll (inclination) movement of the aircraft. This mode enables dynamic shooting.





The camera follows the yaw (left/right) movement of the aircraft without delay, allowing the camera to turn smoothly in the yaw (left/right) direction of the aircraft.

In the roll (inclination) direction of the camera, the camera follows the movement of the aircraft by subtracting the amount that the aircraft is tilted due to wind.

In the pitch (up/down) direction of the camera, the camera orientation follows the travel direction of the aircraft.

However, if the travel direction of the aircraft and the camera orientation are opposite, the camera orientation will follow the direction opposite to the travel direction of the aircraft.

Operation mode	Yaw (left/right) movement of the aircraft	Roll (inclination) movement of the aircraft
Lock	Not following 	Not following 

Operation mode	Yaw (left/right) movement of the aircraft	Roll (inclination) movement of the aircraft
Follow	Following 	Not following 
Airplane	Following 	Following 

- Maximum speed (Pan/Tilt/Roll): You can set the maximum speed of movement along each axis.
- Smoothness (Pan/Tilt/Roll): You can set the smoothness of movement along each axis.
- EXPO (Pan/Tilt): You can set the amount of movement along each axis with respect to the input from the control sticks on the remote controller.
- Deadzone: You can set the no-response range for the control sticks to prevent false reactions when the control sticks are not operated.

Note

- When [Operation mode] is set to [Single], the main controller's pan/tilt EXP setting is reflected in the control levers.
- When [Operation mode] is set to [Single], [Deadzone] is fixed at 15%.

Related Topic

- [Parts and controls \(Remote controller\)](#)
- [Parts and controls \(Gimbal GBL-T3 \(sold separately\)\)](#)
- [Parts and controls \(Gimbal GBL-PX1 \(sold separately\)\)](#)
- [Features of the "Airpeak Flight" App](#)
- [Adjusting the sensitivity of the control sticks](#)

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Mounting, connecting, and installing the RTK kit

When using the RTK kit (sold separately) in combination with this product, follow the operating instructions supplied with the RTK kit (sold separately), and proceed with preparation for connection, attachment, and installation of the RTK kit (sold separately), remote controller, camera, and gimbal.

- 1 **Have the Operating Instructions on hand.**
- 2 **Mount, connect, and/or install the aircraft, RTK kit, remote controller, camera, gimbal, etc.**

Note

- Before flying the aircraft, please read the precautions indicated under "[Preflight checks.](#)"

Related Topic

- [Configuring the RTK kit settings](#)
- [Flight logs and RTK positioning data](#)

Configuring the RTK kit settings

When using the RTK kit (sold separately) to perform RTK positioning, you can configure the setting of the reference station for RTK positioning and adjust the offset value from the antenna unit for aircraft to the center position of the camera's image sensor from the setting menu on the flight screen.

1 Tap [Start flight] on the "Airpeak Flight" App Home page.

The flight screen will be displayed.

2 Tap (Settings) in the top right of the screen.

3 Tap [RTK] in the displayed setting menu.

4 Configure various settings.

[Systems]

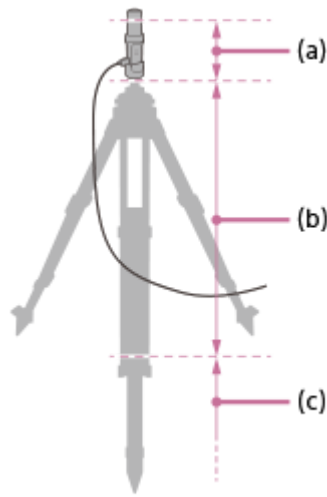
- [Reference station]: Selects the reference station (base station or network station) referred to for RTK positioning. You can select through which remote controller positioning is performed in dual operation mode.
- [Adjust geotag shoot position information]
 - [Adjust to the image sensor position]: Adjusts the shooting position to match the center position of the camera's image sensor instead of the center position of the aircraft. When using a supported camera, an appropriate offset value is used by default. For more accurate positioning, you can set the actual measured value from the aircraft position to the image sensor position of the camera. For how to measure actual values, refer to the guide in the "Airpeak Flight" App.
 - [Optional: Adjust from the image sensor position to the camera's optical center position]: The shoot position information, initially adjusted to the image sensor position, is further refined to the optical center position of the camera along the optical axis direction. This setting of the shoot position information to the camera's optical center position may improve the accuracy of the generated model, depending on the SfM software used.

Note

- The appropriate shoot position information for modelization may differ depending on the SfM software used. Please confirm the SfM software you are using and adjust the shoot position information accordingly. When adjusting from the image sensor position to the exit pupil position, enter the lens's exit pupil position in the [Lens focal length [mm]] field.

[Base station]

- [Position]: The base station position is set either automatically or manually.
 - [Position] for the base station returns to [Not set] when the base station is removed from the remote controller or when the remote controller is turned off or enters a standby state. You can display the previously set value by tapping [Settings] when [Set position manually] is used. To use the same position setting, tap [Apply] while the previously set value is displayed.
 - When setting [Altitude] in [Set position manually], enter the total value of (a), (b), and (c) below.



(a) The distance from the bottom of the antenna unit for base station (antenna reference point) to the antenna phase center = 0.124 m (0.406 feet)

(b) The distance from the known coordinate position to the bottom of the antenna unit for base station. When using a tripod, add the dimensional values shown on the specification sheet for the tripod or values measured with high accuracy.

(c) The ellipsoidal height at the known coordinate location where the antenna unit for base station is installed

- [Detect movement or falls]: You can enable or disable a function that detects when the base station is moved or tips over. This function depends on the GNSS reception environment.

[Network station]

- [Set NTRIP server]: Specifies the server used for the GNSS correction service. The GNSS correction service requires a contract with the distributor. For information such as service contents and usage methods, please contact the distributor.

Note

- Automatic position setting for the base station uses estimation based on single positioning and specifies the relative accuracy of the single positioning. Also, the setting results depend on the GNSS reception environment. If you want to keep the error within centimeters, place the base station in a known coordinate position surveyed by other means and manually set the value, or use network RTK provided that the reference station accuracy meets your desired accuracy.
- If the base station is moved during flight, it will not only prevent RTK positioning but also affect the flight path. Install the base station in a stable place and do not move it.
- Using RTK positioning enables highly accurate repeat flight, but please note that if the reference stations when acquiring the flight log and performing repeat flight are different, highly accurate repeat flight using RTK may be impossible.
- If you use a distant network station, you may not be able to perform RTK positioning correctly. Use a network station as close as possible to the flight area.

Related Topic

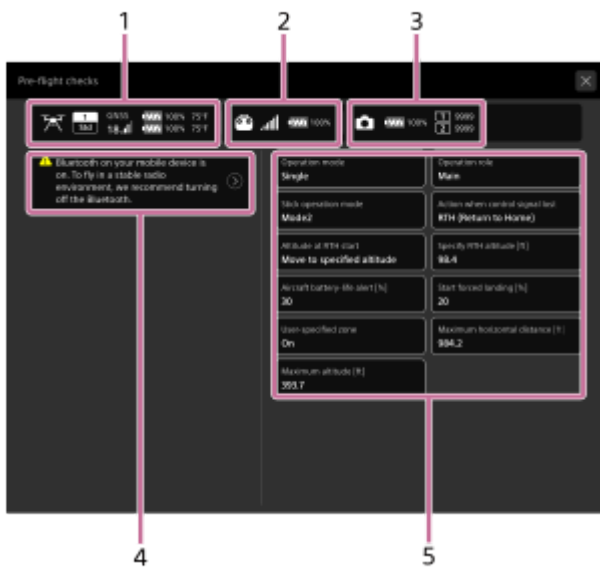
- [Mounting, connecting, and installing the RTK kit](#)
- [Flight logs and RTK positioning data](#)
- [Importing RTK positioning data into SfM software](#)

Checking settings before flights

Checking pre-flight check items

Major setting items and errors can be checked by accessing the pre-flight check screen from the “Airpeak Flight” App Home page.

1. Tap [Start flight] on the “Airpeak Flight” App Home page.
The pre-flight check screen will be displayed if the aircraft is connected.
2. Check the major setting values and warnings on the pre-flight check screen.
Confirm that no warnings or dialogs are displayed.



1. Aircraft status
2. Remote controller status
3. Camera status
4. Notifications
If warnings are shown, fix them.
5. Major setting values
Check if the setting values are correct. Tap the item to change the value.

Manually displaying the pre-flight check screen

Tap the status bar area in the top of the flight screen to display the pre-flight check screen.

Checking settings and status

Settings and status can be checked from the setting menu on the flight screen.

1. Tap [Start flight] on the “Airpeak Flight” App Home page.
2. Tap (Settings) in the top right of the screen.
The setting menu will be displayed. Check the status of these items in the [Aircraft], [Remote controller], and [RTK] categories.

- Aircraft status
 - Flight mode: [Aircraft] – [Flight mode]
 - Maximum flight altitude: [Aircraft] – [Safety functions] – [Maximum altitude]
 - Wireless performance: [Aircraft] – [Sensors/Radio]

- Remote controller status
 - Remote controller operation mode: [Remote controller] – [Connection]
 - Remote controller battery: [Remote controller] – [Details] – [Battery details]

- Battery pack status
 - Aircraft battery packs: [Aircraft] – [Batteries]
 - Aircraft battery pack temperature: [Aircraft] – [Batteries]

- RTK kit (sold separately) status
 - RTK positioning: [RTK] – [Systems] – [Status]
 - Base station: [RTK] – [Base station] – [Status]
 - Network station: [RTK] – [Network station] – [Status]

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Operator's responsibilities

Before flights, read the Startup Guide and this Help Guide carefully to understand all safety features, warnings, and operations.

This product is intended for skilled persons who understand the maneuvering of the aircraft, relevant laws and regulations, and the dangers of exposed rotor blades.

- Operators should not fly the aircraft when they cannot recognize risks including, but not limited to, when under the influence of any mind altering substances (e.g. alcohol, etc.).
- Although the aircraft features advanced technologies, careful decision-making by the operator is still necessary during flight. Flight assistance functions such as automated flight are designed to support the operator and are not intended as substitutes for the operator. The performance of the stereo cameras and other sensors may be affected by environmental factors such as the surrounding light, surface texture of obstacles, etc. Operators must be well-trained and aware of emergency measures in the event of an accident.
- When flying the aircraft for videography/photography, do not infringe upon the privacy of others.
- Do not use this product for any illegal or improper purposes.
- Do not use this product for abuse, harassment, stalking, intimidation, or infringement upon the legal rights of others such as privacy or publicity rights.
- Do not allow the aircraft to trespass on the private property of others.
- Unless permitted by separate prior written agreement between you and Sony, Airpeak is not for military use, including but not limited to the following: development of arms or munitions (including manufacturing, installation, and inspection), transportation of explosives or chemical or biological weapons and other harmful items, or activities such as intelligence, surveillance, and reconnaissance. Additionally, the aforementioned shall also apply to civilians and private citizens and entities, except with regard to surveillance, which is unauthorized only if such use is illegal and otherwise prohibited.
- If any of the external devices installed on the aircraft falls off, it may cause injury or damage to buildings, people, or animals.
- Do not fly an aircraft that is in poor condition or has been damaged due to a crash or collision.
- Do not use a battery pack that has been subjected to a crash or strong impact.

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Flight environment

- Avoid obstacles such as large trees and power lines.
- Do not fly over people or near large crowds of people, unless you have received a waiver or your aircraft has a declaration of compliance to conduct such operations under applicable federal regulations.
- Do not fly at altitudes higher than 122 m (400 feet) above ground level (AGL) or, if higher than 122 m (400 feet) AGL, remain within 122 m (400 feet) of a structure.
- Fly in favorable weather conditions between -10° C (14 °F) and 40° C (104 °F).
- Do not fly in winds exceeding 20 m (66 feet)/s.
- Do not fly in rain, snow, or heavy fog, or during weather visibility that is less than 4.8 km (3 miles) from a control station.
- Do not use the aircraft during a natural or human-caused disaster that may impact flight performance or distract the remote pilot, such as a fire, explosion, flood, tidal wave, avalanche, landslide, earthquake, dust, sandstorm, or other similar circumstances.
- Fly outdoors. In buildings, the aircraft sensor system may be affected by interference, and accuracy of compass and GNSS (Global Navigation Satellite System) features may be impaired.
- Do not fly low over water, ice, or snow surfaces. Flying too close to water, ice, or snow surfaces may cause a malfunction to the aircraft sensor system.
- The Vision Positioning and obstacle brake may not work properly in the following environments or under the following conditions:
 - Areas where transparent objects such as water or glass are present, or where highly reflective objects such as mirrors are present
 - When no objects that show clear surface patterns are present within an altitude of 20 m (66 feet) or more and a circumference of 20 m (66 feet)
 - Areas where regular patterns are continuously present
 - Areas exposed to strong light or areas where there are objects that emit light
 - Areas where the illumination changes rapidly
 - Areas with illuminance equivalent to 100 lux or darker
 - When the stereo camera lenses are dirty or when the stereo camera view is obstructed
 - When the aircraft is flying low at a high speed or the aircraft is surrounded by objects at a short distance
 - When the obstacle is small
 - When the surroundings or obstacles are moving
 - When there are objects in the blind spots of the stereo cameras and other sensors
 - When the stereo cameras and other sensors are not calibrated properly
- The lateral performance of the obstacle brake is reduced when the landing gear is up.
- The flight assistance provided by the Vision Positioning and other sensors only supports the operator and does not guarantee the perfect safety of the flight. Always be cautious when flying the aircraft.
- Note the following precautions during takeoff and landing and during flights:

- Keep people other than the flight operators away from the aircraft. Unexpected events such as gusts against the aircraft may cause injury.
- Take off and land on flat ground.
- Consider using a landing pad for takeoff and landing. In sandy environments, the aircraft may be damaged by wind-borne sand.
- Flight direction and positioning accuracy may be affected by degradation of wireless transmission quality and operating problems near airspace susceptible to magnetic or radio interference, such as near high-voltage power lines, large-scale power transmission stations, cell towers, and broadcast towers. Do not fly near this airspace, because you may lose control of the aircraft if the interference is too strong.
- Before flights, make sure that flying is legally permitted in the airspace where you plan to fly.
- Do not fly when visibility is poor, such as when there is heavy fog, and when you cannot see the aircraft with your own eyes. Only operate before sunrise, after sunset if you comply with federal regulations to do so and determine such an operation can be performed safely.
- Do not fly the aircraft from a moving vehicle unless you comply with federal regulations to do so and determine such an operation can be performed safely.
- To avoid affecting the service life of the motors, do not launch or land the aircraft in sandy or dusty areas.
- Do not load anything onto the aircraft other than the camera and other accessories as stated in the product information documents or as recommended by Sony.
- Comply with all laws, regulations or ordinances and obtain any required approval. Operators are responsible for complying with all applicable laws, regulations or ordinances while using the aircraft and remote controller.
- Do not fly in the No-fly zones. Contact the local aviation authorities for the latest No-fly zone list and comply with applicable laws, regulations or ordinances.
- Flight altitude restrictions may vary by jurisdiction. Do not fly above the maximum altitude stipulated by laws and regulations.
- Avoid flying in airspaces where rescue operations are underway.

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Writing the remote ID to the aircraft

To fly aircraft, it is necessary to register and obtain approval for your drone (unmanned aircraft) on the Federal Aviation Administration (FAA) website, and the aircraft must be flown with the remote ID function activated. When entering aircraft information in the FAA registration system, register a 12-digit number (17287 + aircraft serial number) for the manufacturing number.

Before flights, write the remote ID to the aircraft by the steps below.

1 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

2 Tap [General] in the displayed setting menu.

3 Tap [Systems].

4 Tap [Write] for [Remote ID].

5 In the displayed screen, select [United States], and then tap [Next].

6 Enter the remote ID assigned to the aircraft to the input field, and then tap [Write Remote ID to aircraft].

When the message [Remote ID has been written] is displayed, writing the remote ID to the aircraft is complete.

Note

- Please use Mobile phone/tablet with GPS function to support remote ID.
- For iPad, only cellular models are equipped with GPS. Therefore, a cellular model is required to use the remote ID function. An internet connection is required to register the number. However, there is no need to install a SIM.
- Mobile phone/tablet connected to the remote controller must minimally be one of the following:
 - 1) FCC Certified personal wireless device that uses GPS with SBAS (WAAS) for location services; or
 - 2) FCC Certified personal wireless device with integrated GNSS.Also, mobile phone/tablet must be operated in a way that does not interfere with the location Reported and its correlation to the operator location.

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Airspace flight-restricted functions

This product is equipped with airspace flight-restricted functions to support safe flight.

If any of the following airspace flight-restricted functions is enabled, warnings may be displayed in the “Airpeak Flight” App or some functions of the aircraft may be restricted, based on airspace information.

User-specified zones

The horizontal distance and altitude from the take-off position can be designated as a user-specified zone.

Geofence zones

You can create geofences with the “Airpeak Base” App and fly the aircraft only within the geofence zones.

About flight-restricted airspaces

- Flight-restricted airspaces are as follows.
 - Airspace beyond the maximum horizontal distance and maximum altitude specified by users.
 - Outside the shape defined by the geofences
- The aircraft cannot take off within a flight-restricted airspace. In addition, the control stick operations of the remote controller and some functions of the “Airpeak Flight” App are disabled.
- If the aircraft approaches a flight-restricted airspace, warnings will be displayed on the flight screen in the “Airpeak Flight” App and the aircraft will automatically decelerate or stop as needed.

Airspace information displayed in the “Airpeak Flight” App



1. Geofence zones

Geofences created in the “Airpeak Base” App are displayed.

Hint

- You can toggle the airspace flight-restricted functions on and off in the setting menu of the “Airpeak Flight” App (☰ (Settings) – [Aircraft] – [Safety functions]).
It is the remote pilot/operator's responsibility to always operate in accordance with the regulations of each country or region and user attributes.

Related Topic

- [Features of the “Airpeak Flight” App](#)
- [Setting the flight area for a project](#)
- [Setting geofences](#)

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Limitations when using LBP-HM1 battery packs

When using LBP-HM1 battery packs, some settings in the flight modes [Vel (Velocity)] and [Alt (Altitude)] have the same upper limits as in [Std (Speed)].

See the table below for differences in flight settings with the included LBP-HS1 battery packs.

Flight mode	Std (Speed)	Std (Speed)	Vel (Velocity)	Vel (Velocity)	Alt (Altitude)	Alt (Altitude)
Battery packs used	LBP-HS1	LBP-HM1	LBP-HS1	LBP-HM1	LBP-HS1	LBP-HM1
Maximum speed (When the obstacle brake is disabled)	14 m/s	Same as left	1 m/s — 30 m/s	1 m/s — 14 m/s	Not available	Not available
Maximum tilt angle [deg] (When the obstacle brake is disabled)	35 deg	Same as left	25 deg — 55 deg	Same as left	25 deg — 55 deg	Same as left
Maximum ascent/descent speed	Medium	Same as left	Fast/Medium/Slow	Medium/Slow	Fast/Medium/Slow	Medium/Slow
Acceleration sensitivity	5	Same as left	1 — 10	1 — 5	Not available	Not available
Brake sensitivity	4	Same as left	1 — 10	1 — 4	Not available	Not available

Note

- Make sure to use the latest version of the aircraft, remote controllers, and "Airpeak Flight" App.

Related Topic

- [Setting the flight mode](#)

Preflight checks

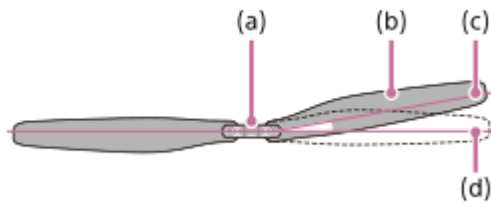
- Confirm that the aircraft and remote controller batteries are fully charged.
- Confirm that both battery packs are loaded in the aircraft.
- Before loading battery packs, confirm that there is no moisture or foreign objects on battery pack terminals, terminals in the aircraft battery slots, on battery pack surfaces, or in the battery slots.
- Before attaching the propellers to the aircraft, check the condition of the propellers.

Points for checking propeller condition

It is dangerous to fly the aircraft under the following conditions, as there is a risk that the propellers may become damaged, posing a risk of crash. Replace the propellers with new ones.

- Propeller blades are found to be chipped, damaged, or deteriorated.
- Propeller hubs are found to be chipped, damaged, or deteriorated.
- Propeller blades move considerably (c).

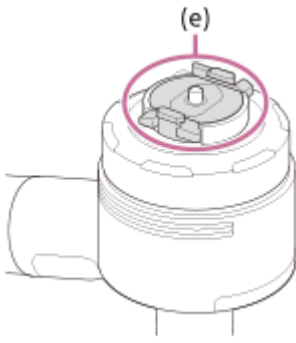
It is normal for the propeller blades to move slightly (d).



- (a) Hub
- (b) Blade
- (c) Movement of propeller blade under abnormal conditions, moving considerably
- (d) Movement of propeller blade under normal conditions

- A strong impact has been applied to the aircraft due to a crash, etc.
Even if there is no external damage to the propellers, there is a possibility that the inside of the propellers have deteriorated.
- After attaching the propellers to the aircraft, make sure that they are securely attached.
- If the propeller attachment point does not move smoothly, the propeller may fall off during flight and pose a risk of crash. Contact Sony Customer Support.
- If any of the following events occurs, the motor or the propeller attachment point on the aircraft may become damaged, causing a crash during flight.
 - During takeoff or landing, the aircraft tips over, and the propellers come into contact with the ground.
 - The landing pad is lifted by the wind and comes into contact with the propellers.
 - The propellers come into contact with an obstacle during flight.

If any of these events is detected, a warning will be displayed in the "Airpeak Flight" App before flight. Even if there are no visible abnormalities in the motor or the propeller attachment point on the aircraft, there is a risk of crash. Contact Sony Customer Support.



(e) Propeller attachment point on the aircraft

- Use only genuine Sony parts or parts recommended by Sony, and confirm that all parts are free of damage and defects.
- Calibrate the aircraft compass by following the instructions displayed in the “Airpeak Flight” App.
- Before turning on the aircraft, confirm that there are no objects near the propellers that may come into contact with them.
- Confirm that the screws securing the damping plate to the aircraft are tight. Loose screws pose a risk of the gimbal and camera in it falling off during flights. As a preflight check item, always confirm that the screws are securely tightened.
- Confirm that aircraft motors are free of problems and work correctly.
- Confirm that the aircraft's stereo cameras, infrared range sensors, and FPV gimbal camera are free of dirt and debris.
- Confirm that there are no problems with gimbal operation.
- Calibrate the compass, IMU (Inertial Measurement Unit) and stereo cameras when prompted to do so in the “Airpeak Flight” App.
- Do not calibrate the compass in areas subject to strong magnetic interference, such as multi-storey parking facilities or underground steel-reinforced structures.
- Do not calibrate the aircraft's stereo cameras in a dark place or a place that is backlit by the sun or other light sources.
- Do not place ferromagnets near the product during calibration.
- Confirm that the number of GNSS (Global Navigation Satellite System) satellites is six or more in the “Airpeak Flight” App.
- Make sure that you fully understand the flight mode that you have selected, as well as the safety functions and warnings.
- Make sure that the “Airpeak Flight” App is working properly to assist you in controlling the aircraft. Sony may not be able to provide after-sales services or take responsibility under certain circumstances, such as when flight data recorded by the “Airpeak Flight” App is not present or the aircraft is lost.
- When you fly the aircraft with an external device loaded, check the following items before flight.
 - Test the hovering performance of the aircraft prior to each flight.
 - Confirm that the total takeoff weight does not exceed normal specifications.
 - Confirm that there is no strong mechanical vibration in the aircraft, electromagnetic interference, or malfunction of the stereo cameras or infrared range sensors.
- Check the version numbers of the “Airpeak Flight” App and system software of the aircraft and remote controller to confirm that they are up to date.



- On flights using the RTK kit (sold separately), carefully check the following items for the camera and RTK according to your environment.
 - Confirm that camera settings such as exposure and focus are set according to the subject you are shooting and the environment.
 - Confirm that the capacity of the SD memory card in the camera is sufficient for the planned number of shots.
 - If the planned number of shots cannot be achieved due to the write speed of the camera's SD memory card being slow, using a CFexpress Type A memory card with a faster write speed may improve the situation.
 - When shooting the control point on a mission flight, confirm that the gimbal is oriented so that the control point is not blocked by surrounding structures, etc.
 - Confirm that [Fixed] is displayed for [RTK] – [Systems] – [Positioning] – [Accuracy] in the setting menu of the "Airpeak Flight" App.
Depending on the GNSS reception environment, it may take several minutes for the display to change to [Fixed].
If you fly the aircraft with [Single] or [Floating] displayed, the position control accuracy of the aircraft will decrease.

Related Topic

- [Features of the "Airpeak Flight" App](#)
- [Charging the batteries](#)
- [Loading battery packs in the aircraft](#)
- [Attaching the damping plate to the aircraft](#)
- [Attaching the propellers](#)

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Precautions during flights

- Always operate the aircraft within the visual line of sight of the operator or a visual observer, unless you have received a waiver from the FAA to conduct an operation beyond visual line of sight.
- Keep away from the spinning propellers and motors in use.
- Propellers in motion are dangerous and should never be touched with your hands, rods or sticks, or by any other means.
- Do not touch the landing gear while the aircraft is in use. This may damage the aircraft or cause injury.
- Be careful not to cover aircraft or remote controller antennas by mistake. This may affect wireless transmission.
- Be careful not to cover the GNSS (Global Navigation Satellite System) antenna part of the aircraft by mistake. This may affect the attitude control of the aircraft.
- After the aircraft has slowed down or stopped when approaching an obstacle or the boundary of a geofence zone, the aircraft may start moving again if the obstacle goes outside the detection range or the aircraft becomes flyable within the geofence zone. Please fly the aircraft with caution.
- When the aircraft descends to a certain altitude from the ground, the landing protection function is activated to check if the terrain below is suitable for landing. If no problem is detected, the landing gear will be automatically lowered. However, the stereo cameras may not work properly or the ground surface may not be recognized under certain circumstances, such as when there is not enough light or there is an obstacle with an unclear surface pattern. Operate the aircraft with great caution.
- If the flight is unstable, land the aircraft immediately, and then check for any dirt on the sensors and calibrate them.
- Since the video transmission signal may be delayed or lost due to interference, the wireless transmission settings of the “Airpeak Flight” App ([Aircraft] — [Sensors/Radio]) should be changed carefully with a full understanding of the changes.
- After landing, first stop the motors, turn off the aircraft, and then turn off the remote controller. For safety, be sure to check that the motors have stopped rotating before turning off the aircraft and remote controller.
- Do not use mobile device features that may interfere with the operation of the aircraft, such as answering calls or replying to emails.
- To execute an emergency motor stop during a flight, tilt the left and right control sticks of the remote controller either inward and downward, or outward and downward at the same time, and hold them in that position for at least 0.5 seconds. The aircraft will crash if the motors stop during a flight. If the control sticks are released before 0.5 seconds have elapsed, the emergency motor stop will not be executed.
- To turn off the power, do the following:
 - Aircraft: Press and hold the  (Power) button for at least 2 seconds.
 - Remote controller: Press and hold the  (Power) button for at least 5 seconds.
- To force the power off, do the following:
 - Aircraft: Remove the battery packs.

- Remote controller: Press and hold the ⏻ (Power) button for at least 10 seconds. If this does not turn off the remote controller, simultaneously press and hold the C2 (Custom 2) button and the ⏻ (Power) button for at least 10 seconds.

About the RTH (Return to Home) function

- The RTH (Return to Home) function may be affected by weather, the surrounding environment, or nearby magnetic fields.
- The aircraft cannot avoid obstacles if there is not enough surrounding light during RTH (Return to Home).
- Set the altitude for obstacle avoidance before performing RTH (Return to Home).
- RTH (Return to Home) does not work when there is an insufficient GNSS (Global Navigation Satellite System) signal (3 or fewer signal bars in the status bar of the “Airpeak Flight” App) or no signal is received from the GNSS (Global Navigation Satellite System).
- If the GNSS (Global Navigation Satellite System) signal cannot be received during RTH (Return to Home), RTH (Return to Home) will be aborted and the aircraft will switch to manual flight.

About the remaining battery level

- If you are notified of low battery, land the aircraft immediately and safely.
- When the battery level drops below a certain level, a warning is displayed and the aircraft automatically starts descending to perform a forced landing. In order to steer the aircraft to an appropriate landing point while maintaining altitude, operate the remote controller to perform ascent while the aircraft is descending.
- If a battery level warning appears on the “Airpeak Flight” App screen, land the aircraft at the Home Point or a landing point immediately. If the battery packs run out of battery during flight, the aircraft may crash onto the ground, including private property, causing injury or damage to people or animals.

About the “Airpeak Flight” App


- Fully charge your mobile device before starting the “Airpeak Flight” App.
- When you operate the remote controller, be sure to start the “Airpeak Flight” App to assist in operating the aircraft.
- The “Airpeak Flight” App may use cellular data communication and incur usage charges according to the data plan provided by your carrier. For cellular data communication usage charges, contact your carrier.
- Read the safety tips, warning messages, and disclaimers displayed on the “Airpeak Flight” App screen carefully.

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Setting the flight area for a project

The “Airpeak Base” App allows you to streamline the management of an entire flight as a project, from flight plans to flight logs.

The data is stored on the cloud and can be displayed in the “Airpeak Flight” App when you actually fly the aircraft at the flight site.

- 1 Click on [Projects] on the “Airpeak Base” App Home page.
- 2 Click on [Create project].
- 3 Enter the project name, flight location, etc. into the dialog, and then click on [Create].
- 4 Click on the created project.
- 5 Click on [Check airspace].
The [Set flight location and flight date] screen will be displayed.
- 6 Click on [Flight date] on the right side of the screen and set the flight date.
- 7 Click on [Add flight area] at the bottom left of the screen, and then click on the map.
A polygon will appear on the map, indicating the flight area.
- 8 Edit the flight area.
Drag  (Point) on the edge of the flight area to form the desired shape.
- 9 Click on [Save].

Hint

- For detailed information on how to use the “Airpeak Base” App, refer to the “Airpeak Base User Guide.”
<https://base.airpeak.sony.com/userguide/docs/introduction/airpeakbase>


Related Topic

- [Setting geofences](#)
- [Creating a Timeline Mission](#)

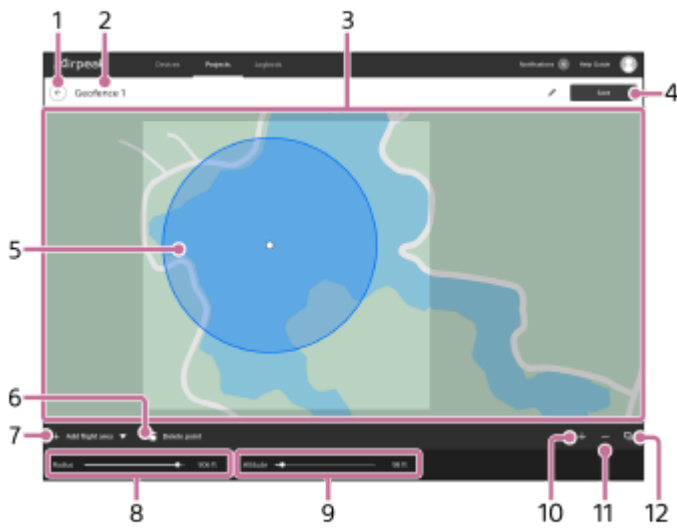
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Setting geofences

Flight restrictions such as flight area or maximum altitude can be defined as geofence zones for each project. Warnings are displayed on the flight screen in the “Airpeak Flight” App when the aircraft approaches the boundary of a geofence zone while in flight. You need to sign up for “Airpeak Plus” (paid plan) to use geofences.

- 1** Click on [Projects] on the “Airpeak Base” App Home page.
- 2** Click on the project for which you want to create geofences.
- 3** Click on [Add geofence] in the [Flight plans] tab, and then select [Create new geofence] from the menu.
The geofence editing screen will be displayed.
- 4** Click on [Add shape] at the bottom left of the screen and select [Circle] or [Polygon], and then click on the map.
A circle or polygon will appear on the map, indicating a geofence zone.
- 5** Edit the geofence.
 - To edit a circle:
To set the radius and maximum altitude, click within the desired shape, and then set the values at the bottom of the screen. The same maximum altitude value applies to the entire zone within a circle.
 - To edit a polygon:
Drag  (Point) on the edge of the polygon to form the desired shape.
To set the maximum altitude, click within the shape, and then set the value at the bottom of the screen. The same value applies to the entire zone within a polygon.
- 6** Click on [Save] when you have completed editing. Enter the geofence name in the dialog, and then click on [Save].

Geofence editing screen



1. ⬅️ (Back)
2. Geofence name
Click to edit.
3. Map
4. [Save]
Click to save the geofence.
5. Shape
Define the outline of the shape as a geofence.
6. 🗑️ (Delete point)
Click to delete the selected point.
7. [Add shape]
Select [Circle] or [Polygon] and click on the map to place a shape. The inside of the circle or polygon area is defined as a geofence zone.
8. [Radius]
Adjust the radius of the circle. This item does not appear when [Polygon] is selected.
9. [Altitude]
Adjust the maximum altitude. The aircraft will fly without exceeding this altitude.
10. ➕ (Zoom in map)
Click to zoom in on the map.
11. ➖ (Zoom out map)
Click to zoom out on the map.
12. 🗖️ (Select map layers)
Click to select information to overlay on the map.

Note

- Note that an internet connection is required to sync geofence zone information between the “Airpeak Base” App and the “Airpeak Flight” App.

Hint

- For detailed information on how to use the “Airpeak Base” App, refer to the “Airpeak Base User Guide.”
<https://base.airpeak.sony.com/userguide/docs/introduction/airpeakbase>

Related Topic

- [Setting the flight area for a project](#)
- [Creating a Timeline Mission](#)

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Creating a Timeline Mission

Create a Timeline Mission with the “Airpeak Base” App, and then set a flight path.

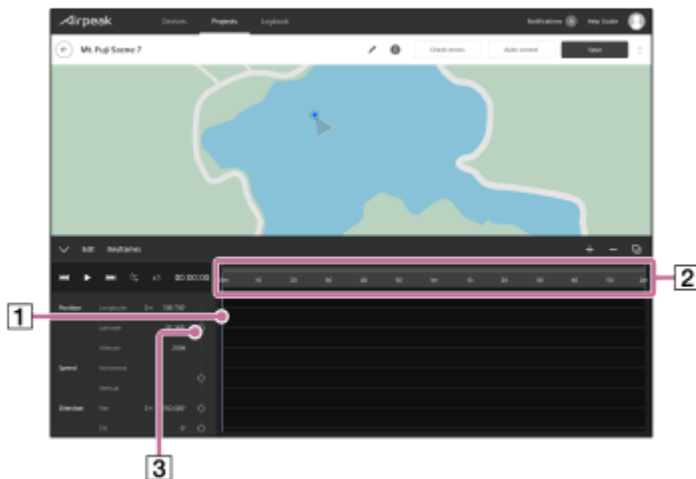
- 1 Click on [Projects] on the “Airpeak Base” App Home page.
- 2 Click on the project for which you want to set a flight path.
- 3 Click on [Add mission] in the [Flight plans] tab, and then select [Create new Timeline Mission] from the menu.



The [Create Timeline Mission] dialog will be displayed.

- 4 Fill in the dialog, and then click on [Set].
 - [Flight duration (30 fps)]: Set the flight duration.
 - [Finish action]: Set a finish action for the aircraft.

The Timeline Mission screen will be displayed.

- 5 Set a keyframe to the flight start position.



1. Make sure that the indicator (1) is at the “0” position of the elapsed time scale (2).
Drag the gray bar in the elapsed time scale (2) to zoom in or out on the elapsed time scale.
2. Drag  (Aircraft) to the desired position on the map.
3. Click on  (Set) (3).

The keyframe will be set to the flight start position.

- 6 Drag the indicator over the elapsed time scale to move to the next keyframe position.
- 7 Repeat procedures 2 and 3 of step 5 to set another keyframe.

The keyframes will automatically be connected by a natural curve to form a flight path. You can adjust the flight path later.

8 Repeat steps 6 and 7 to set more keyframes.

9 Click on [Check errors] when you have finished creating the flight path.

If errors are displayed, click on [Auto correct] to correct the errors that can be corrected automatically. If there are errors that cannot be corrected automatically, correct them manually.

10 Click on [Save].

11 Enter the mission name in the dialog, and then click on [Save].

Adjusting the flight path

1. Select a keyframe by clicking on it on the map.
2. Drag the keyframe or the handle to adjust the flight path.
3. Click on [Save] when you have completed the adjustment.

Adjusting the altitude of the flight path

1. Click on [Altitude].
Changes in altitude are shown by a line on the graph.
2. Select a keyframe on the line by clicking on it, and then drag the keyframe or the handle to adjust the altitude.
3. Click on [Save] when you have completed the adjustment.

Hint

- If you sign up for “Airpeak Plus,” you can import or export a Timeline Mission from ⋮ (Menu) on the Timeline Mission screen. The following formats can be selected.
 - ESP or KML: Select when using a mission with services from other companies
- When using Timeline Missions with the “Airpeak Base” App, the camera orientation is displayed relative to space. The pan axis displays the north orientation as 0°, the tilt axis displays the ground orientation as 0°, and the roll axis displays the horizontal orientation as 0°. If you prefer the tilt axis to display the horizontal orientation as 0° on the Timeline Mission screen, change the setting on the account setting screen of the “Airpeak Base” App.
- For detailed information on how to use the “Airpeak Base” App, refer to the “Airpeak Base User Guide.”
<https://base.airpeak.sony.com/userguide/docs/introduction/airpeakbase>

Related Topic

- [Setting the flight area for a project](#)
- [Setting geofences](#)
- [Flying the aircraft according to a Timeline Mission](#)

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Creating a new Timeline Mission using a flight log

Make use of flight logs to create new Timeline Missions efficiently.

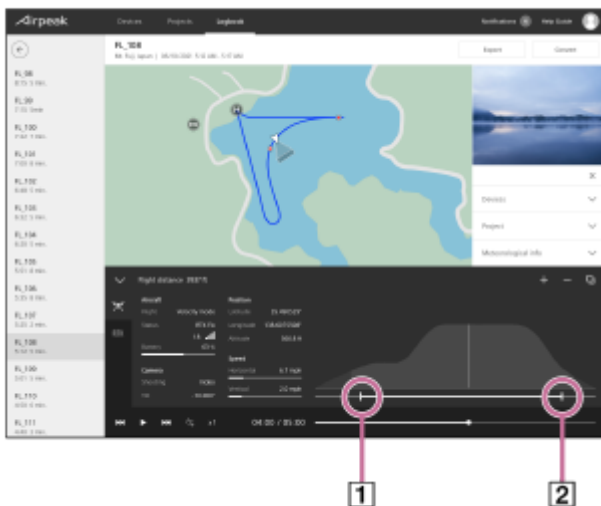
1 Click on [Logbook] on the “Airpeak Base” App Home page.

2 Click on the flight log that you want to reuse.

3 Click on [Show] to open the flight log details panel.

4 Set the range on the timeline of the flight log to convert.

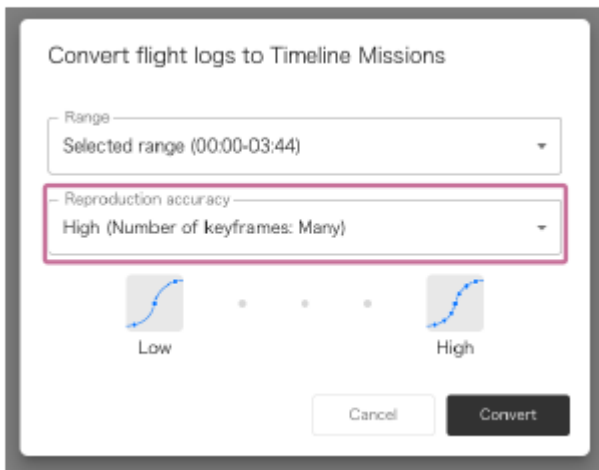
Drag the slider on the flight details panel and set the start point (1) and end point (2).



5 Click on [Convert] at the top right of the flight log screen.

6 In the dialog, select the quality at which you want to convert a flight log to a Timeline Mission, and then click on [Convert].

Selecting [High (Number of keyframes: Many)] will increase the number of keyframes, although the reproducibility will be higher. If you want to edit the Timeline Mission after conversion, it is recommended to convert the flight log using the setting with fewer keyframes.



- 7 In the dialog, select the project to which you want to add a new Timeline Mission, and then click on **[Convert]**.

The flight log will be saved as a new Timeline Mission for the selected project.

Hint

- For detailed information on how to use the “Airpeak Base” App, refer to the “Airpeak Base User Guide.” <https://base.airpeak.sony.com/userguide/docs/introduction/airpeakbase>

Related Topic

- [Checking flight logs in the “Airpeak Base” App](#)
- [Performing Repeat Flight using a Timeline Mission converted from a flight log](#)

Airpeak S1
ARS-S1

Creating a Mapping Mission

By specifying the desired range (target mapping area) on a map in the “Airpeak Flight” App using a polygon, you can automatically generate a flight path for surveying.

1 Start the “Airpeak Flight” App.

Projects and missions created in the “Airpeak Base” App are automatically downloaded from the cloud to the “Airpeak Flight” App.

You can also download projects and missions manually by tapping the account icon and then [Sync with cloud] on the “Airpeak Flight” App Home page.

2 Tap (Project selection) on the “Airpeak Flight” App Home page.

The project selection screen will be displayed.

3 Tap the project in which you have previously set the desired flight area.

4 Tap [Start flight] on the “Airpeak Flight” App Home page.




The flight screen will be displayed.

5 Tap (Automated flight menu).

6 In the [Flight functions] menu, tap [Mapping Mission].




7 In the [Select mission] menu, tap (Menu) and tap [Create new mission].

Hint

- If you import geographic coordinate data (KML-format data specifying the target mapping area using coordinate information on the map) into the “Airpeak Base” App, the data will be synchronized with the “Airpeak Flight” App, and you will be able to create a Mapping Mission based on the geographic coordinate data. In this case, in the [Select mission] menu, tap    (Menu) and tap [Create from geo coordinate data].

8 Tap the desired point on the map.

A quadrangle () representing the target mapping area will be displayed at the point you tapped on the map.

The flight path is displayed as a line () starting from  (start point) and ending at  (end point).



9 Edit the shape of the target mapping area to fit the desired range.

To transform or move the target mapping area

You can transform or move the area by dragging the vertices of the polygon on the map. You can also specify a detailed location by following the steps below.

1. Tap the [Area] tab of the [Create mission] menu.
2. Tap a vertex of the polygon on the map to select it.
3. Enter values for [Latitude] and [Longitude].

To increase the number of vertices of the target mapping area

By dragging a point between the vertices of the polygon on the map, you can increase the number of vertices of the polygon, such as turning a quadrangle into a pentagon.

To decrease the number of vertices of the target mapping area

You can delete the selected vertex by following the steps below.

1. Tap the [Area] tab of the [Create mission] menu.
2. Tap a vertex of the polygon on the map to select it.
3. Tap [Delete].

To expand the target mapping area

By tapping the [Settings] tab of the [Create mission] menu and setting [Expand target mapping area], you can expand the area and shoot a wider area than the specified one.

10 In the [Settings] tab of the [Create mission] menu, enter a name for the mission and edit the setting items for the devices and flight path.

If you edit the parameters in the [Settings] tab, the flight path will change according to the settings.

11 After the settings are complete, tap (Save).

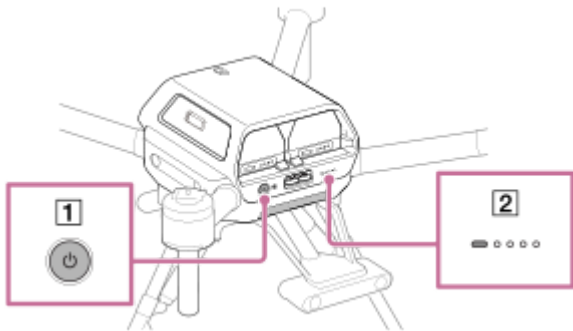
The Mapping Mission will be saved.

- Flying the aircraft according to a Mapping Mission

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Airpeak S1
ARS-S1


Turning the aircraft on/off



1 Press and hold the  (Power) button (**1**) on the aircraft for at least 2 seconds.

The aircraft is turned on. After startup, the power status LED (**2**) stops flashing and remains on.


To turn off the power

Press and hold the  (Power) button (**1**) on the aircraft for at least 2 seconds.
The aircraft is turned off, and the power status LED (**2**) on the aircraft turns off.


Airpeak S1
ARS-S1

Turning the remote controller on/off



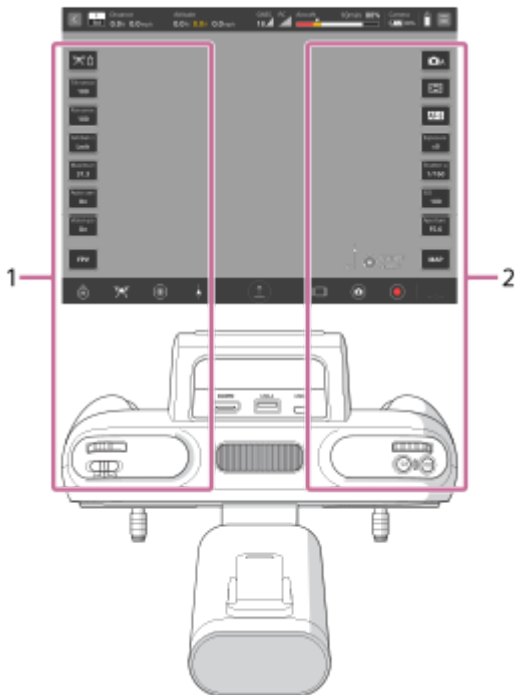
- 1 Press and hold the  (Power) button (1) on the remote controller for at least 2 seconds.**
The remote controller is turned on. After startup, the status LED (2) stops flashing and remains on.

To turn off the power

Press and hold the  (Power) button (1) on the remote controller for at least 5 seconds.
The remote controller is turned off, and the status LED (2) on the remote controller turns off.

Relationship between the remote controller and the flight screen

The layout of the operating parts of the remote controller and the flight screen ("Airpeak Flight" App) is unified: the left side is for flight functions and the right side is for shooting functions.



1. Flight operations

These parts are used for flight operations such as takeoff, landing, gimbal settings, etc.

2. Camera operations

These parts are used for camera operations such as taking videos and photos, settings, etc.

Related Topic

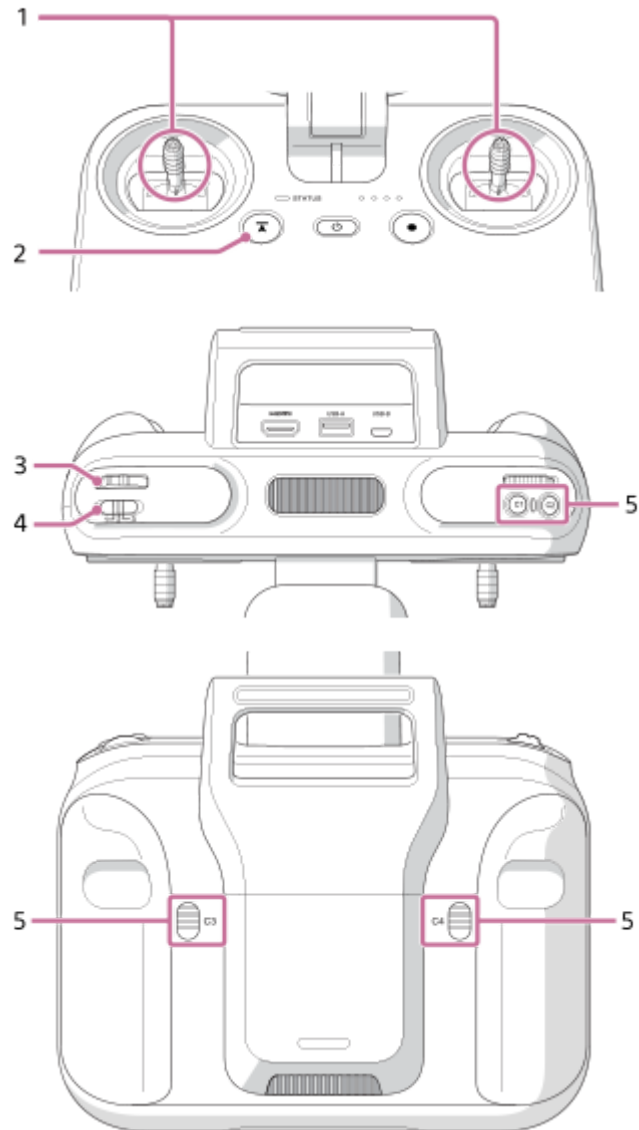
- [Parts for flight operations](#)
- [Parts for shooting operations](#)

Parts for flight operations

The parts used for flight operations are described below.

Remote controller

The parts of the remote controller used for flight operations are described below.



1. Control sticks

Control the orientation and movement of the aircraft.

There are two stick operating modes: [Mode 2] (default setting) and [Mode 1].

2. (⏸) (Automated flight pause) button

Press to pause the aircraft's movement during automated flight, if necessary to ensure safety.

3. Control lever

Tilts the gimbal (up/down).

4. Flight mode switch

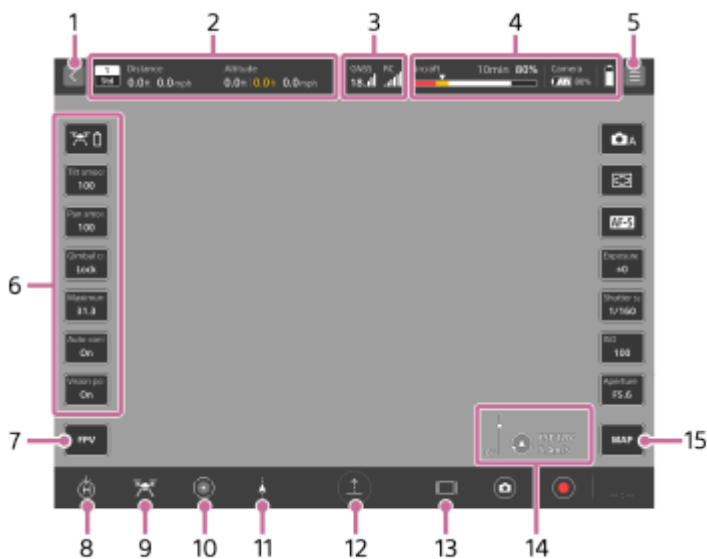
Selects the flight mode (1/2/3).

5. C1 (Custom 1)/C2 (Custom 2)/C3 (Custom 3)/C4 (Custom 4) buttons

Assign the functions for operating the aircraft, camera, and gimbal to these buttons in the setting menu of the “Airpeak Flight” App.

Flight screen (“Airpeak Flight” App)

The items on the flight screen used for flight operations are shown below.



1. (Back)

Tap to go back to the App Home page.

2. Telemetry

- (Flight mode indication): Indicates the current position of the flight mode switch on the remote controller and the current flight mode.
- (Horizontal information indication): Indicates the horizontal speed of the aircraft and the distance from the take-off position.
- (Vertical information indication): Indicates the vertical speed of the aircraft and the altitude relative to the take-off position. The Vision Positioning altitude is also displayed when the Vision Positioning function is enabled.



3. Radio reception information


- (Indication of the number and signal strength of positioning satellites such as GNSS (Global Navigation Satellite System))
- (Indication of the positioning information when using the RTK kit (sold separately)): You can check the status of RTK positioning.
The background turns yellow when the RTK positioning accuracy is low.
 - (RTK fixed state): RTK positioning is being performed with high accuracy.
 - (RTK floating state): A certain period of time has elapsed since communication of correction information ceased, or the RTK positioning accuracy is low.
 - (RTK single point positioning state): Single point positioning is being performed by the aircraft’s GNSS because RTK positioning is not available.
- (Indication of the signal strength of the remote controller)

4. Remaining battery level

- (Indication of the remaining flight time and remaining battery of the aircraft): Indicates the remaining flight time until forced landing due to insufficient battery power. The remaining battery level of the aircraft is indicated as a numerical value and a bar. The red area shows the remaining amount set for [Aircraft] – [Batteries]

– [Start forced landing [%]] in the setting menu, and the yellow area shows the remaining amount set for [Battery-life alert [%]]. The triangle mark indicates the minimum battery level required to return to the Home Point. When the battery level drops to the level indicated by the triangle mark, the aircraft starts to perform RTH (Return to Home).

-  (Indication of the remaining battery of the camera)
-  (Indication of the remaining battery of the mobile device)

5.  (Settings)

Tap to display the setting menu. Tap  (Close) to hide the menu.

6. Side menu

Displays the current setting value for each button. By default, the following functions are assigned, but you can choose which functions to assign. To customize the items to display on the side menu, press and hold any one of the buttons on the side menu.

If your mobile device has a small screen, not all of the buttons are displayed. To display other buttons, swipe vertically on the side menu.

- [Display aircraft's battery details]
Displays the status of the aircraft battery packs.
- [Tilt smoothness]
Adjusts the smoothness of the gimbal's tilting (up/down) movement.
- [Pan smoothness]
Adjusts the smoothness of the gimbal's panning (left/right) movement.
- [Gimbal control mode]
Selects the gimbal control mode.
- [Maximum speed]
Sets the maximum value for the horizontal speed of the aircraft during manual flight.
- [Auto control landing gear]
Toggles the automatic landing gear control function on and off with each tap.
- [Vision Positioning]
Toggles the Vision Positioning function on and off with each tap.

7.  (FPV)

Tap to display the FPV view in a sub screen.

8.  (RTH (Return to Home))


Tap to automatically return the aircraft to the Home Point.

9.  (Landing gear up/down)

Tap to raise or lower the landing gear.

10.  (Obstacle brake)

Tap to toggle the obstacle brake on and off for all directions except downward.


You can enable/disable the brake for each direction in the setting menu of the "Airpeak Flight" App ( (Settings) – [Aircraft] – [Sensors/Radio] – [Obstacle brake]).

11.  (Automated flight menu)

Tap to display the [Flight functions] menu.



12.  (Auto take off)/ (Auto landing)/ (Automated flight start)/ (Automated flight pause)

Tap to perform takeoff and landing. The indication changes according to the flight status.

13.  (Informational content switching)

Tap to change the amount of information displayed on the flight screen.

14.  (Wind speed/direction)/  (Tilt direction)

-  (Wind speed/direction): Displays the wind speed/direction around the aircraft.
-  (Tilt direction): Displays the tilt direction of the main gimbal.

15.  (Map)

Tap to display the map view in a sub screen.

Related Topic

- [Parts and controls \(Remote controller\)](#)
- [Setting the flight mode](#)
- [Selecting the operating mode of the control sticks](#)
- [Adjusting the sensitivity of the control sticks](#)
- [Changing the functions assigned to the custom buttons, lever, or dial on the remote controller](#)
- [Parts for shooting operations](#)

Airpeak S1
ARS-S1

Switching views on the flight screen

The following views are available on the flight screen of the “Airpeak Flight” App.

- Camera view: Displays the image from the camera in full-screen.
- FPV view: Displays the image from the FPV gimbal camera of the aircraft in the sub screen at the bottom left of the screen.
- Map view: Displays a map in the sub screen at the bottom right of the screen.

You can switch the views among the sub screens and the full screen.

1 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed with the camera view in full-screen.

2 To display the FPV view, tap  (FPV). To display the map view, tap  (Map).

The FPV view will appear in the sub screen at the bottom left of the screen. The map view will appear in the sub screen at the bottom right of the screen.

3 Tap one of the sub screens.

The views in the sub screen and the full screen will switch. To hide the sub screen, tap  (FPV) or  (Map).

Related Topic

- [Parts for flight operations](#)
- [Parts for shooting operations](#)

Airpeak S1
ARS-S1

Flying the aircraft with manual control

There are two flight methods for this aircraft: manual flight, in which the aircraft is controlled with the remote controller, and automated flight, in which the aircraft automatically flies without user operation. This topic describes the operations for manual flight.

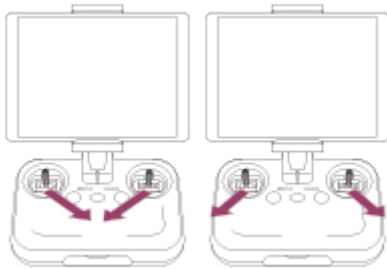
- 1 Turn on the aircraft and place it on a flat surface.
- 2 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

- 3 Launch the aircraft.

Manual takeoff

1. Tilt the left and right control sticks on the remote controller either inward and downward, or outward and downward at the same time.
The motors will start and the propellers start rotating.



2. Operate the control sticks on the remote controller to make the aircraft ascend.

Automated takeoff

1. On the flight screen in the “Airpeak Flight” App, tap  (Auto take off) and follow the instructions on the screen.
The motors will start and the propellers will start rotating. Then, the aircraft will take off.

The landing gear will rise when the aircraft ascends to a certain height above the take-off position.

- 4 Control the aircraft manually with the remote controller.

The left and right control sticks work as follows when [Stick operating mode] is set to [Mode 2] (default).

Left stick

- Tilt up/down: Ascend/descend.
- Tilt left/right: Turn left/right.

Right stick


- Tilt up/down: Fly forward/backward.
- Tilt left/right: Fly left/right.

- 5 Land the aircraft.

Manual landing

1. Operate the control sticks on the remote controller to make the aircraft descend.
The landing gear will lower when the aircraft descends to a certain height above the ground.
2. Keep operating the control sticks until the aircraft lands and the motors stop.
After the motors stop, release the control sticks to return them to the central position.

Automated landing

1. On the flight screen in the “Airpeak Flight” App, tap  (Auto landing) and follow the instructions on the screen.
The landing gear will lower when the aircraft descends to a certain height above the ground, and then the aircraft will land and motors will stop.

Note

- Keep away from the spinning propellers and motors in use.
- Raise or lower the landing gear manually if you have set [Auto control landing gear] to off.

Related Topic

- [Selecting the operating mode of the control sticks](#)
- [Adjusting the sensitivity of the control sticks](#)
- [Operator's responsibilities](#)
- [Flight environment](#)
- [Preflight checks](#)
- [Precautions during flights](#)
- [Parts for flight operations](#)
- [Landing gear operation](#)
- [Executing an emergency motor stop](#)

Airpeak S1
ARS-S1

Flying the aircraft according to a Timeline Mission

You can automatically fly the aircraft according to a Timeline Mission (flight path) created using the “Airpeak Base” App.

1 Create projects and Timeline Missions based on your flight plan with the “Airpeak Base” App.

The projects and Timeline Missions will be stored in the cloud.

2 Start the “Airpeak Flight” App.

Projects and Timeline Missions created in the “Airpeak Base” App are automatically downloaded from the cloud to the “Airpeak Flight” App.

You can also download projects and missions manually by tapping the account icon and then [Sync with cloud] on the “Airpeak Flight” App Home page.

3 Tap  (Project selection) on the “Airpeak Flight” App Home page.

The project selection screen will be displayed.

4 Tap the project that contains the desired Timeline Mission.

5 Turn on the aircraft and place it on a flat surface.

6 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

7 Tap  (Automated flight menu).

8 In the [Flight functions] menu, tap [Timeline Mission].

9 In the mission list, tap the Timeline Mission according to which you want to fly the aircraft.

A map that shows the flight path of the selected Timeline Mission will be displayed on the screen.

10 In the [Edit flight path] menu, check the flight path, edit it if necessary, and then tap [Next].

11 In the [Flight settings] menu, select the desired setting values, and then tap [Next].

A preflight check will be performed. If errors are detected, fix them.

12 Tap [Start flight] and follow the on-screen instructions to operate the aircraft.



The aircraft will start the automated flight. If there is some distance to the starting point of the flight path, the aircraft will fly automatically to the starting point (preparation flight). Make fine adjustments to the flight path or pause/stop the flight if necessary.

When the aircraft reaches the end point, it will hover or perform RTH (Return to Home) depending on the settings.


Hint

- If an obstacle is detected during the preparation flight, the behavior set in [Settings] – [Aircraft] – [Behavior] – [Smart Obstacle Avoidance] will be applied.

Pausing an automated flight

If you press the  (Automated flight pause) button on the remote controller during an automated flight, the automated flight will be paused and the aircraft will hover. Horizontal movement/turning/ascending/descending/stop operations can be performed while paused. To resume automated flight, tap  (Automated flight start) on the flight screen of the “Airpeak Flight” App.

Switching to a manual flight

Tap [Cancel] () on the flight screen of the “Airpeak Flight” App during the automated flight to stop the automated flight. The aircraft will hover.




Adjusting the flight path manually

You can make fine adjustments to the starting point of the automated flight and the flight path during an automated flight with the control sticks on the remote controller.

- Making fine adjustments to the starting point of the automated flight: The entire flight path including the starting point will move in parallel in the direction in which the control stick is operated.
- Making fine adjustments to the flight path during an automated flight: Select either of the following methods in the [Flight settings] menu of the “Airpeak Flight” App.
 - Similar to making fine adjustments to the starting point of the automated flight, the flight path will move in parallel in the direction in which the control stick is operated.
 - While operating the control stick, the aircraft flies in the direction in which the control stick is operated. When you stop operating the control stick, the aircraft will return to the original automated flight path.

Resuming automated flight

- Even if an automated flight is stopped by switching to a manual flight or performing RTH (Return to Home) due to low battery, the automated flight can be resumed from where it was stopped.
- Even after the aircraft is turned off and then back on, the immediate preceding automated flight can be resumed. You can also resume an automated flight during a manual flight.
- To resume an automated flight, tap  (Automated flight menu) on the flight screen of the “Airpeak Flight” App, select [Suspended mission], and then follow the on-screen instructions to resume the flight.

Preventing the aircraft from approaching columnar structures

When shooting columnar structures such as radio towers, the following settings and flight paths are recommended. You can prevent the aircraft from getting too close to the shooting target, allowing it to keep at least a certain distance from objects during flight.

- Select the following setting values in order in the [Flight settings] menu in step 11.
 1. Set [Aircraft nose direction] to [Main camera direction].
The distance to the shooting target is recognized by the forward-facing stereo camera of the aircraft. Point the nose of the aircraft toward the shooting target when flying. It is recommended that you calibrate the forward-facing stereo camera in advance.
 2. Set [Behavior when in manual control] to [Change entire flight path; continue changed path after quitting manual control].
 3. Set [Proximity prevention] to [On].
The aircraft will fly at least a certain distance from the shooting target.
- Keep at least a certain distance between the aircraft and the structures when creating a flight path.
An automated flight may be unable to continue if the flight path is too close to structures. When creating a Timeline Mission, make sure the distance between the aircraft and structures is greater than the minimum distance (horizontal distance) from the shooting target. The distance is to the surface, not to the center of the structure.
 - When the minimum distance from the shooting target is set to 10 m (32.8 feet): The distance between the aircraft and structures should be greater than 12 m (40 feet).
 - When the minimum distance from the shooting target is set to 15 m (49.2 feet): The distance between the aircraft and structures should be greater than 18 m (60 feet).

Note

- The aircraft will terminate automatic flight if the following situations occur. Control the aircraft by manual operation.
 - When the aircraft's landing gear lowers during a preparation flight or path flight ^(*1)
 - When the obstacle brake function is activated continuously over a certain period of time during a path flight ^(*1)

*1 Refers to the flight from the starting point to the end point of the flight path.

Perform automated flight after correcting the path to a safe one.

- On flights using the RTK kit (sold separately), the RTK positioning accuracy may decrease due to factors such as the environment. Fly the aircraft while checking the RTK positioning status on the flight screen in the "Airpeak Flight" App. Also, even if [Fixed] is displayed for [RTK] – [Systems] – [Positioning] – [Accuracy] in the setting menu of the "Airpeak Flight" App, the absolute accuracy of the aircraft position will depend on the correction data for the base station/network station set as the RTK reference station.

Hint

- For detailed information on how to use the "Airpeak Base" App, refer to the "Airpeak Base User Guide."
<https://base.airpeak.sony.com/userguide/docs/introduction/airpeakbase>



Related Topic

- [Features of the "Airpeak Flight" App](#)
- [Selecting the operating mode of the control sticks](#)
- [Adjusting the sensitivity of the control sticks](#)
- [Operator's responsibilities](#)
- [Flight environment](#)
- [Preflight checks](#)
- [Precautions during flights](#)
- [Creating a Timeline Mission](#)
- [Parts for flight operations](#)
- [Landing gear operation](#)
- [Executing an emergency motor stop](#)

Airpeak S1
ARS-S1

Flying the aircraft according to a Mapping Mission


You can automatically fly the aircraft according to a Mapping Mission (flight path) created using the “Airpeak Flight” App.

- 1 **Start the “Airpeak Flight” App.**
- 2 **Turn on the aircraft and place it on a flat surface.**
- 3 **Tap [Start flight] on the “Airpeak Flight” App Home page.**
The flight screen will be displayed.
- 4 **Tap  (Automated flight menu).**
- 5 **In the [Flight functions] menu, tap [Mapping Mission].**
- 6 **On the [Select mission] screen, tap the desired mission.**
- 7 **In the [Create mission] menu, check the settings and flight path of the selected mission, edit them if necessary, and then tap [Next].**
- 8 **In the [Pre-flight checks] menu, check the mission information and confirmation items, and then tap [Next].**
In order to shoot at appropriate intervals, you need to set the camera appropriately in advance. You can check the recommended settings by tapping  (Information) on the screen.
- 9 **At the flight start position, check that the various settings on the pre-flight check screen are correct and that there are no warning notifications, and then tap [Next].**
- 10 **Tap [Start flight] and follow the on-screen instructions to operate the aircraft.**



The aircraft will start the automated flight. If there is some distance to the starting point of the flight path, the aircraft will fly automatically to the starting point (preparation flight). Make fine adjustments to the flight path or pause/stop the flight if necessary.

When the aircraft reaches the end point, it will hover or perform RTH (Return to Home) depending on the settings.


Hint

- When flying the aircraft for surveying purposes, it is recommended that you focus the camera at the flight start position and lock it using the [AF lock] function before starting automated flight.
You can use the camera's [AEL w/ Shutter] function to set whether to lock the exposure when you focus the camera. If you do not want to lock the exposure when locking the focus using the [AF lock] function, it is recommended that you set the camera's [AEL w/ Shutter] function to [Off].
- If an obstacle is detected during the preparation flight, the behavior set in  (Settings) – [Aircraft] – [Behavior] – [Smart Obstacle Avoidance] will be applied.

Pausing an automated flight

If you press the  (Automated flight pause) button on the remote controller during an automated flight, the automated flight will be paused and the aircraft will hover. Horizontal movement/turning/ascending/descending/stop operations can be performed while paused. To resume automated flight, tap  (Automated flight start) on the flight screen of the “Airpeak Flight” App.

Switching to a manual flight

Tap [Cancel] () on the flight screen of the “Airpeak Flight” App during the automated flight to stop the automated flight. The aircraft will hover.



Adjusting the flight path manually

You can make fine adjustments to the starting point of the automated flight and the flight path during an automated flight with the control sticks on the remote controller.

- Making fine adjustments to the starting point of the automated flight: The entire flight path including the starting point will move in parallel in the direction in which the control stick is operated.
- Making fine adjustments to the flight path during an automated flight: While operating the control stick, the aircraft flies in the direction in which the control stick is operated. When you stop operating the control stick, the aircraft will return to the original automated flight path.

Note

- The aircraft will terminate automatic flight if the following situations occur. Control the aircraft by manual operation.
 - When the aircraft's landing gear lowers during a preparation flight or path flight ^(*1)
 - When the obstacle brake function is activated continuously over a certain period of time during a path flight ^(*1)

^{*1} Refers to the flight from the starting point to the end point of the flight path.

Perform automated flight after correcting the path to a safe one.

- On flights using the RTK kit (sold separately), the RTK positioning accuracy may decrease due to factors such as the environment. Fly the aircraft while checking the RTK positioning status on the flight screen in the “Airpeak Flight” App. Also, even if [Fixed] is displayed for [RTK] – [Systems] – [Positioning] – [Accuracy] in the setting menu of the “Airpeak Flight” App, the absolute accuracy of the aircraft position will depend on the correction data for the base station/network station set as the RTK reference station.

Related Topic

- [Creating a Mapping Mission](#)

Airpeak S1
ARS-S1

Performing Repeat Flight using a Timeline Mission converted from a flight log

By using a flight log stored in the cloud, you can convert a previous flight path to a Timeline Mission and automatically fly the aircraft along a previous flight path. Once a flight log has been converted to a Timeline Mission, data can be shared between apps by exporting or importing it.

Preparation

See [“Creating a new Timeline Mission using a flight log”](#) to convert the flight log that you want to reuse into a Timeline Mission.

1 Start the “Airpeak Flight” App.

Projects and Timeline Missions created in the “Airpeak Base” App are automatically downloaded from the cloud to the “Airpeak Flight” App.

You can also download projects and missions manually by tapping the account icon and then [Sync with cloud] on the “Airpeak Flight” App Home page.

2 Tap  (Project selection) on the “Airpeak Flight” App Home page.

The project selection screen will be displayed.

3 Tap the project that contains the Timeline Mission you created in advance.

4 Turn on the aircraft and place it on a flat surface.

5 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

6 Tap  (Automated flight menu).

7 In the [Flight functions] menu, tap [Timeline Mission].

8 In the mission list, tap the Timeline Mission that you created in advance.

A map that shows the flight path of the selected Timeline Mission will be displayed on the screen.

9 In the [Edit flight path] menu, check the flight path, edit it if necessary, and then tap [Next].

10 In the [Flight settings] menu, select the desired setting values, and then tap [Next].


A preflight check will be performed. If errors are detected, fix them.

11 Tap [Start flight] and follow the on-screen instructions to operate the aircraft.



The aircraft will start the automated flight. If there is some distance to the starting point of the flight path, the aircraft will fly automatically to the starting point (preparation flight). Make fine adjustments to the flight path or pause/stop the flight if necessary.

When the aircraft reaches the end point, it will hover or perform RTH (Return to Home) depending on the settings.


Hint

- If an obstacle is detected during the preparation flight, the behavior set in  (Settings) – [Aircraft] – [Behavior] – [Smart Obstacle Avoidance] will be applied.

Pausing an automated flight

If you press the  (Automated flight pause) button on the remote controller during an automated flight, the automated flight will be paused and the aircraft will hover. Horizontal movement/turning/ascending/descending/stop operations can be performed while paused. To resume automated flight, tap  (Automated flight start) on the flight screen of the “Airpeak Flight” App.

Switching to a manual flight

Tap [Cancel] () on the flight screen of the “Airpeak Flight” App during the automated flight to stop the automated flight. The aircraft will hover.




Adjusting the flight path manually

You can make fine adjustments to the starting point of the automated flight and the flight path during an automated flight with the control sticks on the remote controller.

- Making fine adjustments to the starting point of the automated flight: The entire flight path including the starting point will move in parallel in the direction in which the control stick is operated.
- Making fine adjustments to the flight path during an automated flight: Select either of the following methods in the [Flight settings] menu of the “Airpeak Flight” App.
 - Similar to making fine adjustments to the starting point of the automated flight, the flight path will move in parallel in the direction in which the control stick is operated.
 - While operating the control stick, the aircraft flies in the direction in which the control stick is operated. When you stop operating the control stick, the aircraft will return to the original automated flight path.

Resuming automated flight

- Even if an automated flight is stopped by switching to a manual flight or performing RTH (Return to Home) due to low battery, the automated flight can be resumed from where it was stopped.
- Even after the aircraft is turned off and then back on, the immediate preceding automated flight can be resumed. You can also resume an automated flight during a manual flight.
- To resume an automated flight, tap  (Automated flight menu) on the flight screen of the “Airpeak Flight” App, select [Suspended mission], and then follow the on-screen instructions to resume the flight.

Preventing the aircraft from approaching columnar structures

When shooting columnar structures such as radio towers, the following settings and flight paths are recommended. You can prevent the aircraft from getting too close to the shooting target, allowing it to keep at least a certain distance from objects during flight.

- Select the following setting values in order in the [Flight settings] menu in step 10.
 1. Set [Aircraft nose direction] to [Main camera direction].

The distance to the shooting target is recognized by the forward-facing stereo camera of the aircraft. Point the nose of the aircraft toward the shooting target when flying. It is recommended that you calibrate the forward-facing stereo camera in advance.
 2. Set [Behavior when in manual control] to [Change entire flight path; continue changed path after quitting manual control].
 3. Set [Proximity prevention] to [On].

The aircraft will fly at least a certain distance from the shooting target.
- Keep at least a certain distance between the aircraft and the structures when creating a flight path.

An automated flight may be unable to continue if the flight path is too close to structures. When creating a Timeline Mission, make sure the distance between the aircraft and structures is greater than the minimum distance (horizontal distance) from the shooting target. The distance is to the surface, not to the center of the structure.

 - When the minimum distance from the shooting target is set to 10 m (32.8 feet): The distance between the aircraft and structures should be greater than 12 m (40 feet).
 - When the minimum distance from the shooting target is set to 15 m (49.2 feet): The distance between the aircraft and structures should be greater than 18 m (60 feet).

Note

- The aircraft will terminate automatic flight if the following situations occur. Control the aircraft by manual operation.
 - When the aircraft's landing gear lowers during a preparation flight or path flight ^(*1)
 - When the obstacle brake function is activated continuously over a certain period of time during a path flight ^(*1)

*1 Refers to the flight from the starting point to the end point of the flight path.

Perform automated flight after correcting the path to a safe one.

- On flights using the RTK kit (sold separately), the RTK positioning accuracy may decrease due to factors such as the environment. Fly the aircraft while checking the RTK positioning status on the flight screen in the "Airpeak Flight" App. Also, even if [Fixed] is displayed for [RTK] – [Systems] – [Positioning] – [Accuracy] in the setting menu of the "Airpeak Flight" App, the absolute accuracy of the aircraft position will depend on the correction data for the base station/network station set as the RTK reference station.


Related Topic

- [Selecting the operating mode of the control sticks](#)
- [Adjusting the sensitivity of the control sticks](#)
- [Operator's responsibilities](#)
- [Flight environment](#)
- [Preflight checks](#)
- [Precautions during flights](#)
- [Checking flight logs in the "Airpeak Base" App](#)
- [Creating a new Timeline Mission using a flight log](#)
- [Performing Direct Repeat Flight](#)
- [Parts for flight operations](#)
- [Landing gear operation](#)
- [Executing an emergency motor stop](#)

Airpeak S1
ARS-S1

Performing Direct Repeat Flight

By using the repeat flight function, you can instantly fly the aircraft along the same route you have flown once without the cloud cooperation. Although it is not possible to share missions by exporting or importing but the repeat flight function is suitable when you want the aircraft to fly the same flight path again without any hassle.

- 1 **Start the “Airpeak Flight” App.**
- 2 **Turn on the aircraft and place it on a flat surface.**
- 3 **Tap [Start flight] on the “Airpeak Flight” App Home page.**
The flight screen will be displayed.
- 4 **Tap  (Automated flight menu).**
- 5 **In the [Flight functions] menu, tap [Direct Repeat Flight].**
- 6 **Tap the desired flight log for repeat flight in the flight log list.**
A map that shows the flight path of the selected flight log will be displayed on the screen.
- 7 **In the [Edit flight path] menu, check the flight path, edit it if necessary, and then tap [Next].**
- 8 **In the [Flight settings] menu, select the desired setting values, and then tap [Next].**
A preflight check will be performed. If errors are detected, fix them.

Hint


- When performing Direct Repeat Flight using flight logs after updating the aircraft's system software version to 2.1.0 or later, the start and end timing of still image shooting and video recording can also be repeated by setting [Camera directions and shooting] to [Auto]. Camera settings such as aperture and shutter speed will not be repeated, so set the camera's still image and video shooting mode appropriately before performing Direct Repeat Flight.

- 9 **Tap [Start flight] and follow the on-screen instructions to operate the aircraft.**



The aircraft will start the automated flight. If there is some distance to the starting point of the flight path, the aircraft will fly automatically to the starting point (preparation flight). Make fine adjustments to the flight path or pause/stop the flight if necessary.

When the aircraft reaches the end point, it will hover or perform RTH (Return to Home) depending on the settings.


Hint

- If an obstacle is detected during the preparation flight, the behavior set in  (Settings) – [Aircraft] – [Behavior] – [Smart Obstacle Avoidance] will be applied.

Pausing an automated flight

If you press the  (Automated flight pause) button on the remote controller during an automated flight, the automated flight will be paused and the aircraft will hover. Horizontal movement/turning/ascending/descending/stop operations can be performed while paused. To resume automated flight, tap  (Automated flight start) on the flight screen of the “Airpeak Flight” App.

Switching to a manual flight

Tap [Cancel] () on the flight screen of the “Airpeak Flight” App during the automated flight to stop the automated flight. The aircraft will hover.



Adjusting the flight path manually

You can make fine adjustments to the starting point of the automated flight and the flight path during an automated flight with the control sticks on the remote controller.

- Making fine adjustments to the starting point of the automated flight: The entire flight path including the starting point will move in parallel in the direction in which the control stick is operated.
- Making fine adjustments to the flight path during an automated flight: Select either of the following methods in the [Flight settings] menu of the “Airpeak Flight” App.
 - Similar to making fine adjustments to the starting point of the automated flight, the flight path will move in parallel in the direction in which the control stick is operated.
 - While operating the control stick, the aircraft flies in the direction in which the control stick is operated. When you stop operating the control stick, the aircraft will return to the original automated flight path.

Note

- The aircraft will terminate automatic flight if the following situations occur. Control the aircraft by manual operation.
 - When the aircraft's landing gear lowers during a preparation flight or path flight ^(*)
 - When the obstacle brake function is activated continuously over a certain period of time during a path flight ^(*)

^{*}1 Refers to the flight from the starting point to the end point of the flight path.

Perform automated flight after correcting the path to a safe one.

- Flight logs of the flights in environments where GNSS (Global Navigation Satellite System) signals are weak or unavailable cannot be selected as logs for repeat flight.
- On flights using the RTK kit (sold separately), the RTK positioning accuracy may decrease due to factors such as the environment. Fly the aircraft while checking the RTK positioning status on the flight screen in the “Airpeak Flight” App. Also, even if [Fixed] is displayed for [RTK] – [Systems] – [Positioning] – [Accuracy] in the setting menu of the “Airpeak Flight” App, the absolute accuracy of the aircraft position will depend on the correction data for the base station/network station set as the RTK reference station.

Related Topic

- Selecting the operating mode of the control sticks
- Adjusting the sensitivity of the control sticks
- Operator's responsibilities
- Flight environment
- Preflight checks
- Precautions during flights
- Checking flight logs in the "Airpeak Base" App
- Creating a new Timeline Mission using a flight log
- Performing Repeat Flight using a Timeline Mission converted from a flight log
- Parts for flight operations
- Landing gear operation
- Executing an emergency motor stop

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Airpeak S1
ARS-S1


Returning the aircraft to the Home Point

The function that automatically returns the aircraft to the Home Point (take-off position) is referred to as the RTH (Return to Home) function.




- 1 On the flight screen in the “Airpeak Flight” App, tap  (RTH (Return to Home)) and follow the instructions on the screen.

Conditions for RTH (Return to Home) to be executed automatically

In the following cases, the RTH (Return to Home) function is automatically executed.

- When the battery level of the aircraft is low or the battery reaches an unsafe temperature
- When unrecoverable software errors are detected
- If the behavior of the aircraft when there is poor communication between the aircraft and the remote controller is set to RTH (Return to Home)
(You can set this in the setting menu of the “Airpeak Flight” App:  (Settings) – [Aircraft] – [Safety functions].)
- If the behavior of the aircraft after the mission ends is set to RTH (Return to Home) when creating a mission

To control the aircraft with manual intervention during RTH (Return to Home)

- Operate the control sticks on the remote controller. While you operate the control sticks, movement according to RTH (Return to Home) will be interrupted, and the aircraft will move as directed by the control stick operations. Unlike normal manual flight operation, the aircraft will move at a speed suitable for fine adjustments to the path. To resume the aircraft’s movement according to RTH (Return to Home), release the control sticks to return them to the central position.
- Aircraft’s movement by RTH (Return to Home) can be paused by pressing the  (Automated flight pause) button on the remote controller. Even when paused, you can fine-tune the aircraft’s position by operating the control stick on the transmitter. You can make fine adjustments to the aircraft’s position by the control stick operations of the remote controller even while the aircraft is paused. To resume RTH (Return to Home), tap  (Automated flight start) on the flight screen of the “Airpeak Flight” App.  (Automated flight pause) button on the remote controller does not resume RTH (Return to Home).

Note

- When RTH (Return to Home) is activated under the following conditions, you cannot control the aircraft with manual intervention.
 - When unrecoverable software errors are detected
 - When there is poor communication between the aircraft and the remote controller
- When RTH (Return to Home) is activated due to unrecoverable software errors, the obstacle avoidance function does not work.

To stop RTH (Return to Home) and switch to manual flight

During RTH (Return to Home), tap [Cancel] on the flight screen of the “Airpeak Flight” App.

Related Topic

- [Parts for flight operations](#)
- [Setting the aircraft’s behavior during RTH \(Return to Home\)](#)

Airpeak S1
ARS-S1

Setting the aircraft's behavior during RTH (Return to Home)

You can set the aircraft's behavior during execution of the RTH (Return to Home) function.

1 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

2 Tap  (Settings) in the top right of the screen.

3 Tap [Aircraft] in the displayed setting menu.

4 Tap [Behavior].

5 Set [Altitude at RTH start] and [Smart Obstacle Avoidance].

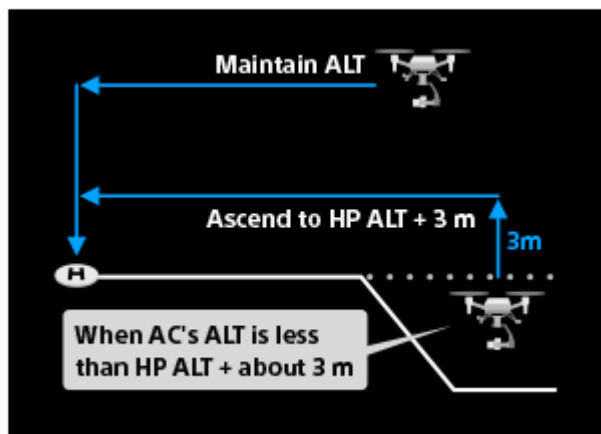
[Altitude at RTH start]

Sets the altitude at RTH (Return to Home) start. The selected altitude is relative to the Home Point.

- [Maintain altitude during flight]

The aircraft will return by setting the aircraft nose direction to the Home Point while maintaining its altitude during the flight.

When the aircraft's altitude is about 3 m lower than the Home Point altitude, the aircraft will ascend to 3 m above the Home Point altitude and return to the Home Point.

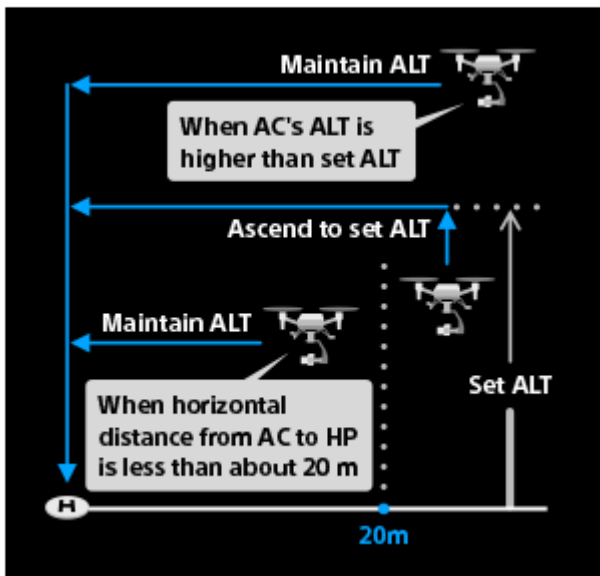


- [Move to specified altitude]

When the aircraft is more than about 20 m away horizontally from the Home Point and its altitude during flight is below the specified value, it will ascend to that set altitude and return to the Home Point, aligning its nose in that direction. The altitude can be set up to 10 m lower than the maximum altitude of the user-specified zone. Check the surrounding environment for the flight and set a safe altitude with no obstacles in the route.

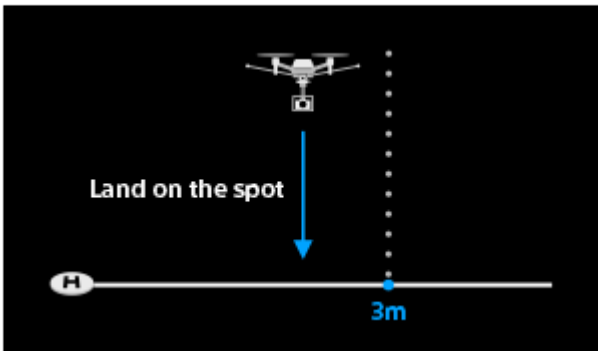
However, in the following conditions, the aircraft will return to the Home Point while maintaining its current flight altitude:

- When the horizontal distance from the aircraft to the Home Point is less than about 20 m
- When the aircraft's current altitude during flight is higher than the set value



Exception of altitude at RTH start

When the horizontal distance from the aircraft to the Home Point is less than about 3 m, the aircraft will land on the spot without changing its nose direction, regardless of the RTH start altitude setting.



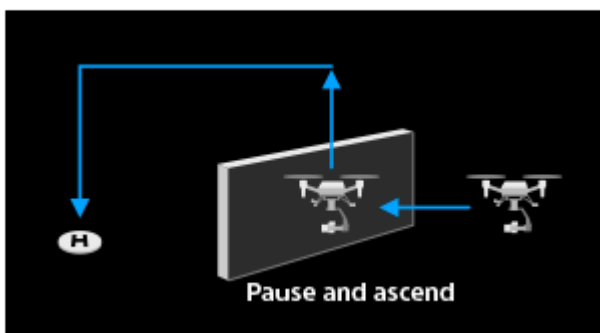
[Smart Obstacle Avoidance]

A function to avoid obstacles automatically. You can choose one of 2 options for the obstacle avoidance methods.

- [Basic]

The aircraft pauses and ascends 3 meters when detecting an obstacle. If no obstacle is detected, it continues to fly at that altitude in the horizontal direction. In the presence of a continuously detected obstacle, the aircraft will keep ascending until no obstacle is detected.

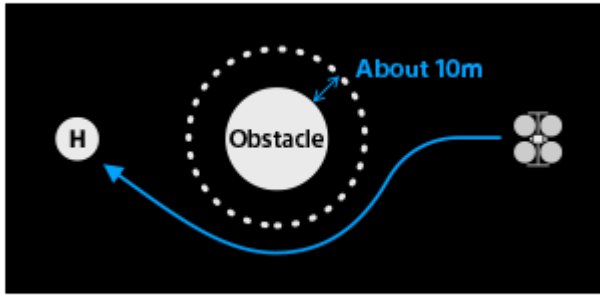
When operating in environments such as forests or residential areas with numerous obstacles but no tall obstacles in the vicinity, it is recommended to select the [Basic] option. Please note that choosing [Basic] may result in a longer RTH (Return to Home) time and increased battery consumption compared to the [Advanced] option.



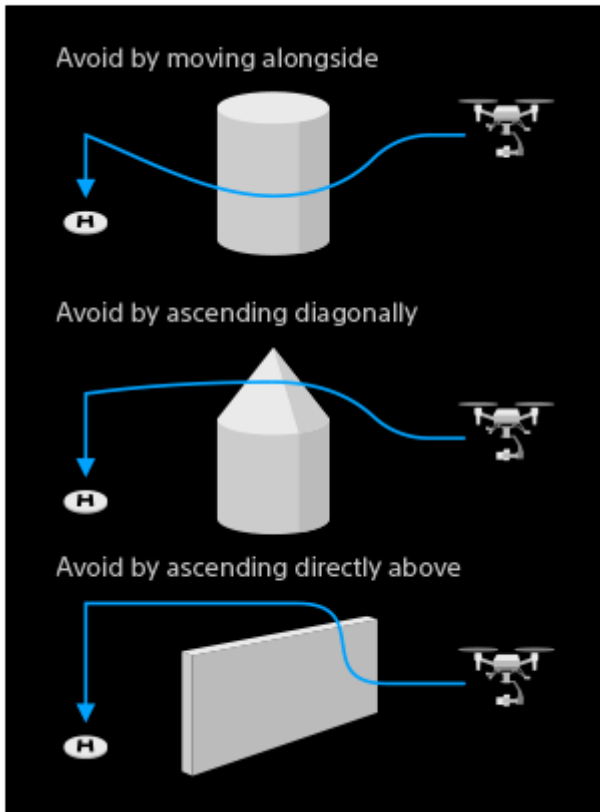
- [Advanced]

The aircraft automatically chooses an efficient path, ascending or flying horizontally when detecting an obstacle. The aircraft flies with maintaining about 10 m distance from the obstacle.

Select [Advanced] when you prefer to avoid obstacles by moving the aircraft to the horizontal direction than raising it in the environment where is assumed to have tall obstacles such as a building or a lattice tower. It takes shorter time for RTH (Return to Home) and may consume less battery than [Basic].



To avoid obstacles:



Note

- The [Smart Obstacle Avoidance] function is a function to assist the operator and does not necessarily enable the operator to avoid obstacles. The operator should keep a close eye on the aircraft. If there is a risk of collision, operate the remote controller to avoid obstacles.

Hint

- The [Smart Obstacle Avoidance] setting applies not only to RTH (Return to Home), but also to actions during a preparation flight in a Timeline Mission, Mapping Mission, or Direct Repeat flight.
- When [Smart Obstacle Avoidance] is set to [Basic], the aircraft will not avoid obstacles during flights other than RTH (Return to Home).

Related Topic

- [Returning the aircraft to the Home Point](#)



Airpeak S1
ARS-S1

Landing gear operation

The landing gear can be raised or lowered automatically or manually.

At the time of purchase, [Auto control landing gear] is enabled and the landing gear is automatically raised or lowered according to the altitude of the aircraft. Raise or lower the landing gear manually when [Auto control landing gear] is set to off.

To raise or lower the landing gear manually

Tap  (Raise the landing gear) or  (Lower the landing gear) on the flight screen of the "Airpeak Flight" App and follow the instructions on the screen.

Related Topic

- [Parts and controls \(Aircraft\)](#)
- [Parts for flight operations](#)

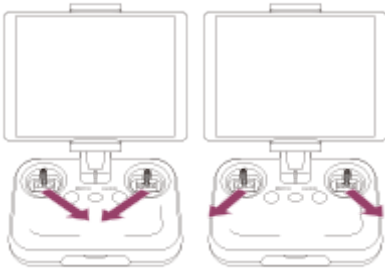
Airpeak S1
ARS-S1

Executing an emergency motor stop

You can stop the motors of the aircraft in urgent situations such as avoiding danger during a flight.

- 1 **Tilt the left and right control sticks on the remote controller either inward and downward, or outward and downward at the same time, and hold them in that position for at least 0.5 seconds.**

The motors and propellers will stop. The aircraft will fall if the motors stop during a flight.




At least 0.5 seconds

Note

- To execute an emergency motor stop, tilt and hold the control sticks for at least 0.5 seconds. If the control sticks are released before 0.5 seconds have elapsed, the emergency motor stop will not be executed.

Hint

- You can deactivate the emergency motor stop function. On the flight screen of the “Airpeak Flight” App, tap  (Settings) – [Aircraft] – [Safety functions] and turn off the [Execute emergency motor stop] switch.

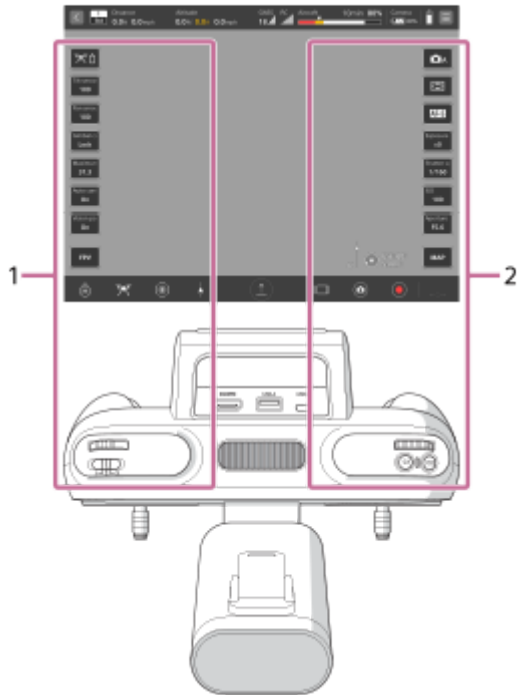
Related Topic

- [Parts for flight operations](#)

Airpeak S1
ARS-S1

Relationship between the remote controller and the flight screen

The layout of the operating parts of the remote controller and the flight screen (“Airpeak Flight” App) is unified: the left side is for flight functions and the right side is for shooting functions.



1. Flight operations

These parts are used for flight operations such as takeoff, landing, gimbal settings, etc.

2. Camera operations

These parts are used for camera operations such as taking videos and photos, settings, etc.

Related Topic

- [Parts for flight operations](#)
- [Parts for shooting operations](#)

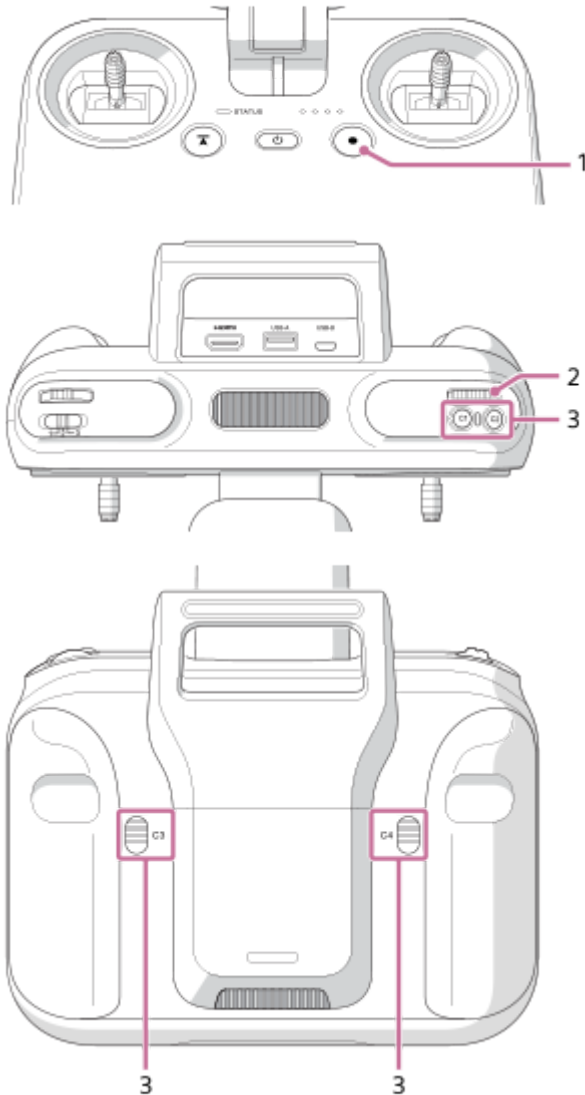
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Parts for shooting operations

The parts used for shooting operations are described below.

Remote controller

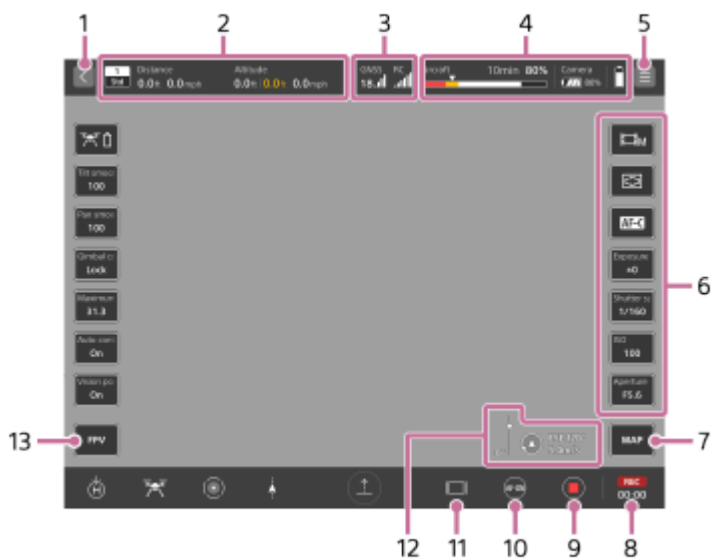
The parts of the remote controller used for shooting operations are described below.



1.  (MOVIE) button
Press to start/stop video recording.
2. Control dial
Turn to change the setting values of the camera.
3. C1 (Custom 1)/C2 (Custom 2)/C3 (Custom 3)/C4 (Custom 4) buttons
Assign the functions for operating the aircraft, camera, and gimbal to these buttons in the setting menu of the “Airpeak Flight” App.

Flight screen (the “Airpeak Flight” App)




The items on the flight screen used for shooting operations are described below.









1. ⏪ (Back)

Tap to go back to the App Home page.




2. Telemetry

-  (Flight mode indication): Indicates the current position of the flight mode switch on the remote controller and the current flight mode.
-  (Horizontal information indication): Indicates the horizontal speed of the aircraft and the distance from the take-off position.
-  (Vertical information indication): Indicates the vertical speed of the aircraft and the altitude relative to the take-off position. The Vision Positioning altitude is also displayed when the Vision Positioning function is enabled.

3. Radio reception information

-  (Indication of the number and signal strength of positioning satellites such as GNSS (Global Navigation Satellite System))
-  (Indication of the positioning information when using the RTK kit (sold separately)): You can check the status of RTK positioning.
 -  (RTK fixed state): RTK positioning is being performed with high accuracy.
 -  (RTK floating state): A certain period of time has elapsed since communication of correction information ceased, or the RTK positioning accuracy is low.
 -  (RTK single point positioning state): Single point positioning is being performed by the aircraft's GNSS because RTK positioning is not available.
-  (Indication of the signal strength of the remote controller)

4. Remaining battery level

-  (Indication of the remaining flight time and remaining battery of the aircraft): Indicates the remaining flight time until forced landing due to insufficient battery power. The remaining battery level of the aircraft is indicated as a numerical value and a bar. The red area shows the remaining amount set for [Aircraft] – [Batteries] – [Start forced landing [%]] in the setting menu, and the yellow area shows the remaining amount set for [Battery-life alert [%]]. The triangle mark indicates the minimum battery level required to return to the Home Point. When the battery level drops to the level indicated by the triangle mark, the aircraft starts to perform RTH (Return to Home).
-  (Indication of the remaining battery of the camera)
-  (Indication of the remaining battery of the mobile device)

5. ☰ (Settings)

Tap to display the setting menu. Tap  (Close) to hide the menu.

6. Side menu




Displays the current setting value for each button. By default, the following functions are assigned, but you can choose which functions to assign. If your mobile device has a small screen, not all of the buttons are displayed. To display other buttons, swipe vertically on the side menu.

- [Shoot mode]
Selects the shooting mode of the camera.
- [Focus area]
Sets the focus area of the camera.
- [Focus mode]
Selects the focus mode of the camera.
- [Exposure comp.]
Normally, the exposure is set automatically (auto exposure). You can adjust the exposure based on the exposure value set via auto exposure. The entire image will become brighter if you set the exposure to a larger value.
- [Shutter speed]
Adjusts the shutter speed of the camera.
- [ISO]
Adjusts the ISO number (recommended exposure index) of the camera. A larger number increases the sensitivity as well as noise.
- [Aperture]
Adjusts the aperture value (F-value) of the camera. The subject and its foreground and background are all in focus with a larger F-value.

7. (Map)

Tap to display the map view in a sub screen.



8. (Still image) / / (Elapsed recording time)

-  (Still image): Displays the thumbnails of still images.
-  /  (Elapsed recording time): Displays the elapsed recording time during video recording.

9. (Movie recording)

Tap to start/stop recording a video.



10. (Still image shooting) / (AF-ON)

-  (Still image shooting): Tap to shoot a still image.
-  (AF-ON): Tap to enable the auto focus during video recording.

11. (Information amount switching)

Tap to change the amount of information (show/hide item names) displayed on the flight screen.

12. (Wind speed/direction) / (Tilt direction)

-  (Wind speed/direction): Displays the wind speed/direction around the aircraft.
-  (Tilt direction): Displays the tilt direction of the main gimbal.

13. (FPV)

Tap to display the FPV view in a sub screen.

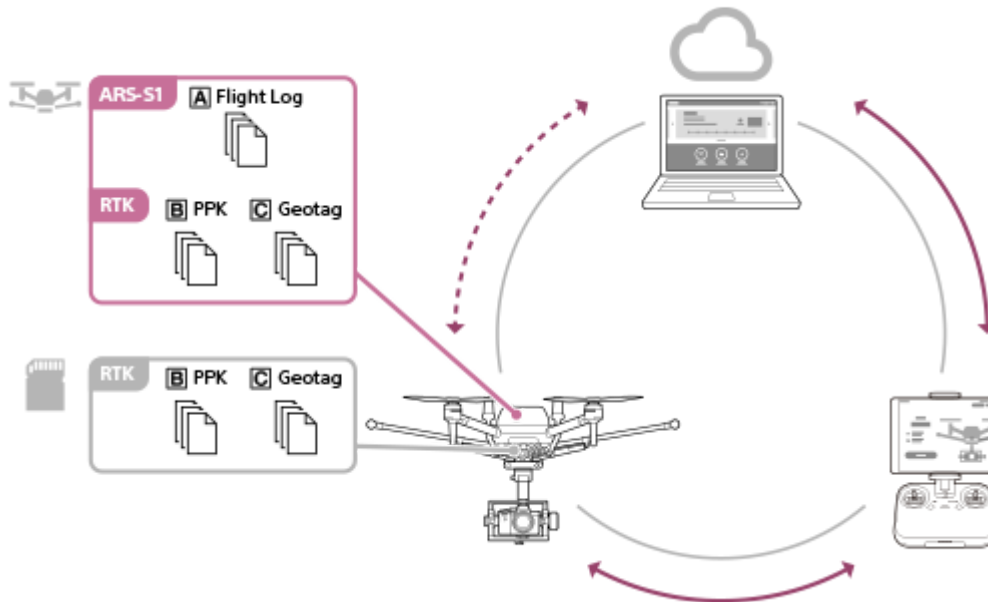
- Parts and controls (Remote controller)
- Changing the functions assigned to the custom buttons, lever, or dial on the remote controller
- Parts for flight operations

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Airpeak S1
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Flight logs and RTK positioning data

The data stored in the aircraft's onboard memory and the SD memory card of the RTK kit (sold separately) is described below.



Data stored in the aircraft's onboard memory

You can upload data stored in the aircraft's onboard memory to the cloud using the "Airpeak Flight" App. By default, this data is uploaded to the cloud automatically.

Data uploaded to the cloud from the aircraft's onboard memory can be managed and used at a location distant from the flight site, such as an office, if an internet connection is available.

A Flight log

This type of log records data related to the aircraft's flights. You can make use of flight logs to create new missions efficiently.

B PPK (when using the RTK kit (sold separately))

This is GNSS observation data for post-processing RTK positioning results with PPK (Post Processing Kinematic). By importing it into PPK-compliant software and performing post-processing, it may be possible to calculate the aircraft position and correct the positions of captured still images more accurately. For details, refer to ["Importing RTK positioning data into SfM software ."](#)

C Geotag (when using the RTK kit (sold separately))

This is mapping data that records camera position and attitude information for each captured still image. It can be imported into SfM software and used to create 3D models from captured still images. For details, refer to ["Importing RTK positioning data into SfM software ."](#)

Data stored in the SD memory card of the RTK kit (sold separately)

The same data as PPK and geotags stored in the aircraft's onboard memory is stored on the SD memory card mounted in the interface unit of the RTK kit (sold separately). This data can easily be used even if no internet connection is available, such as for confirmation at the flight site.

B PPK (when using the RTK kit (sold separately))

C Geotag (when using the RTK kit (sold separately))

Note

- Only turn off the aircraft and remove the SD memory card after confirming that the “Airpeak Flight” App screen does not show a notification that data is being written. Turning off the aircraft and removing the SD memory card while data is being written may result in a partial loss of PPK and geotag data stored on the SD memory card of the RTK kit (sold separately).

Related Topic


- [Uploading flight logs to the cloud](#)
- [Checking flight logs in the “Airpeak Base” App](#)
- [Importing RTK positioning data into SfM software](#)

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Uploading flight logs to the cloud

By default, flight logs are uploaded to the cloud automatically. The steps for manual upload are as follows. An internet connection is necessary to upload flight logs to the cloud.

- 1 **Connect the aircraft and the remote controller (the main controller in the case of dual operation mode).**
- 2 **Tap [Start flight] on the “Airpeak Flight” App Home page.**
The flight screen will be displayed.
- 3 **Tap  (Settings) in the top right of the screen.**
- 4 **Tap [General] in the displayed setting menu.**
- 5 **Tap [Systems].**
- 6 **Check [Flight logs], and if there are any flight logs that have not been uploaded, tap [Upload].**

Hint

- If you want to stop automatic upload of flight logs, set [Upload automatically] to [Off]. By setting it to [Off], automatic upload of device logs will also be stopped.

Related Topic

- [Types of logs stored on the aircraft](#)

Airpeak S1
ARS-S1

Checking flight logs in the “Airpeak Base” App

The “Airpeak Base” App allows you to check flight logs uploaded to the cloud from the “Airpeak Flight” App.

1 Click on [Logbook] on the “Airpeak Base” App Home page.

2 Click on the desired flight log in the flight log list.

The flight log screen will be displayed.

Flight log screen



1. ⬅️ (Back)

2. Flight log list
Click to display the flight log screen.

3. Flight log name

4. Flight log information (Flight location/flight date and time)

5. Map
The flight path is indicated as a line. The icons on the map represent the following information.

- (Home Point)
- (Start or end location of video recording)
- (Photographed location)
- (Aircraft position)
- (Base station) (When using the RTK kit (sold separately))

6. [Export]
Click to save the flight log as a ULOG, EPS or CSV file.

- ULOG: Format for reimporting as a flight log to the “Airpeak Base” App
- ESP: Format for checking the flight path using services from other companies

- CSV: Format for using the flight log in other companies' services.

If you are using the RTK kit (sold separately), you can export (save) PPK or geotag data. For details, refer to [“Importing RTK positioning data into SfM software .”](#)

7. [Convert]






Click to convert the flight log to a Timeline Mission.

8. Thumbnails of images from the FPV gimbal camera



9. Right panel

- Warnings: Click to display details.
- [Devices]: Click to display the list of devices used for the flight.
- [Project]: Click to display project information.
- [Description]: Click to edit.

10. Flight log details panel (Top)






-  (Show) /  (Hide): Click to show/hide the flight log details panel.
- [Distance]: Click to display the flight distance recorded in the flight log.
-  (Zoom in map): Click to zoom in on the map.
-  (Zoom out map): Click to zoom out on the map.
-  (Select map layers): Click to select information to overlay on the map.

11. Flight log details panel (Bottom)

-  (Aircraft) tab: The aircraft's position, speed, etc. is displayed.
-  (RTK) tab: The position, etc., of the reference station referred to for RTK positioning is displayed.

12. Timeline panel (Playback operation buttons)

Click to play back the flight log.

-  (Go to beginning)
-  (Play) /  (Pause)
-  (Go to end)
-  (Turn on repeat playback) /  (Turn off repeat playback)
- ×1 (Playback speed)

13. Timeline panel (Timeline display)

- Elapsed time/flight duration
- Timeline bar: Drag the slider to move the playback point.

Hint

- For detailed information on how to use the “Airpeak Base” App, refer to the “Airpeak Base User Guide.” <https://base.airpeak.sony.com/userguide/docs/introduction/airpeakbase>

Related Topic

- [Creating a new Timeline Mission using a flight log](#)

Importing RTK positioning data into SfM software

Data exported (saved) using the “Airpeak Base” App can be imported into software compliant with PPK (Post Processing Kinematic) or SfM software for analysis.

1 Click on **[Logbook]** on the “Airpeak Base” App Home page.

2 Click on the desired flight log in the flight log list.

The flight log screen will be displayed.

3 Click on **[Export]**.

4 Click on the data format that you want to export.

PPK

This is data for post-processing location information with PPK-compliant software.

- [PPK (GNSS Raw data) - BIN format]: all GNSS observation data ^(*1)
- [PPK (RINEX OBS) - OBS format]: observation data from reference stations ^(*2)
- [PPK (RINEX NAV) - NAV format]: GNSS navigation data ^(*2)

*1 u-blox UBX format

*2 RINEX version 3.04 format

Geotag

This is data that records the position and attitude of the camera for each captured still image.

The label name of the data is indicated in the first row of each file.

Select the format that is compatible with your SfM software.

- [Geotag - CSV format (Yaw, Pitch, Roll)]: data in which the camera attitude is expressed as yaw, pitch, and roll relative to the aircraft
Data is written in the order of [File name][Lat][Lon][Alt][Yaw][Pitch][Roll][XY accuracy][Z accuracy].
- [Geotag - CSV format (Omega, Phi, Kappa)]: data in which the camera attitude is expressed as omega, phi, and kappa relative to space
Data is written in the order of [File name][Lat][Lon][Alt][Omega][Phi][Kappa][XY accuracy][Z accuracy].
- [Geotag - CSV format (All data)]: all data, including both of the above
Data is written in the order of [File name][Time stamp][Lat][Lon][Alt][Yaw][Pitch][Roll][Omega][Phi][Kappa][XY accuracy][Z accuracy][Fix type][Offset].
Edit the data according to your software.

5 Start your software, import captured still images, then import the exported data.

Refer to the software instructions for details.

Hint

- For detailed information on how to use the “Airpeak Base” App, refer to the “Airpeak Base User Guide.”
<https://base.airpeak.sony.com/userguide/docs/introduction/airpeakbase>

Related Topic

- [Mounting, connecting, and installing the RTK kit](#)
- [Configuring the RTK kit settings](#)
- [Flight logs and RTK positioning data](#)

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Saving geotagged captured still images

When shooting still images with the RTK kit (sold separately) attached to the aircraft, geotagged captured still images can be saved to the SD memory card inserted into the interface unit. To use this function, you will need the following compatible devices.

Devices required to save geotagged captured still images

- RTK kit
- Camera (recommended): α7R IV (ILCE-7RM4/ILCE-7RM4A), α7R V (ILCE-7RM5)
- SD memory card: UHS Speed Class 3 or Video Speed Class 30 or faster

1 Tap [Start flight] on the “Airpeak Flight” App Home page.

The flight screen will be displayed.

2 Tap (Settings) in the top right of the screen.

3 Tap [RTK] in the displayed setting menu.

4 Tap [SD card].

5 Set [Save geotagged images taken] to [On].

Restrictions on camera settings

When you set [Save geotagged images taken] to [On], the camera settings will be automatically adjusted to the following recommended values. While this setting is turned on, camera values cannot be manually changed from the recommended values.

- [File Format]: [JPEG]
- [JPEG/HEIF Switch]: [JPEG]
- [JPEG Quality]: [Fine]^(*1)
- [PC Remote Function] – [Still Img. Save Dest.]: [PC Only]
- [PC Save Image Size]: [Original]

*1 The JPEG quality setting will be adjusted to [Fine] when a quality higher than [Fine] is selected. The recommended camera setting value is [Fine], but the JPEG quality setting can be changed to a lower image quality than [Fine].

Note

- Automatic adjustments may not be supported on some camera models. In such cases, modify the settings using the camera's settings screen.
- When [Save geotagged images taken] is set to [Off] while the camera is connected, [Still Img. Save Dest.] is automatically set to [PC+Camera], allowing images taken to be saved on both the computer and the camera.

Interval image capacity ^(*1)

Make camera settings using the table below as a guide.

JPEG quality/Shooting interval	Interval image capacity
Fine/1 sec.	Taken with the ILCE-7RM5: About 600 still images Taken with the ILCE-7RM4/ILCE-7RM4A: About 350 still images
Fine/1.3 sec. or longer	No limit
Standard/1 sec. or longer	No limit

*1 The number of still images accommodated may vary depending on shooting conditions and the SD memory card's performance in the interface unit.

Note


- If the number exceeds the camera's processing capacity during continuous shooting, shooting may not be possible at the specified shooting interval. In such cases, please try the following solutions.
 - If the speed of writing to the SD memory card in the interface unit has decreased, format the SD memory card or use a different SD memory card.
 - Reconsider the shooting conditions, such as reducing image quality or extending the shooting interval.
- When you shoot still images with [Save geotagged images taken] set to [On], screen updates will be slower, and the image will not be displayed smoothly. If you lower the camera image quality, the slowing of the screen update speed will be reduced.

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Adding geotags to captured still images manually

Geotags can be added to captured still images using the RTK positioning data (mapping data) stored on the SD memory card of the RTK kit (sold separately).

Mapping data is generated only when the RTK kit (sold separately) is attached to the aircraft.

- 1 **Prepare all the necessities for geotagging.**
 - An SD memory card inserted into the interface unit of the RTK kit (sold separately)
 - A memory card containing the captured still images to which you want to add geotags
 - A memory card reader compatible with the mobile device on which “Airpeak Flight” is installed
 - A cable to connect the above-mentioned memory card reader and mobile device
- 2 **Tap [Start flight] on the “Airpeak Flight” App Home page.**
The flight screen will be displayed.
- 3 **Tap  (Settings) in the top right of the screen.**
- 4 **Tap [General] in the displayed setting menu.**
- 5 **Tap [Systems].**
- 6 **Tap [Start] below [Add geotags to images taken].**
The wizard for adding geotags to captured still images will start.
- 7 **Follow the instructions on the screen to add geotags to the captured still images.**
- 8 **When a message indicating that adding geotags is complete is displayed, tap [Close].**

Processing time required for geotagging

Depending on the performance of your mobile device, memory card reader, and memory card, geotagging may take some time. Estimates for the processing time required for geotagging are as follows.

Mobile device (OS version)	Memory card reader	Memory card	Processing time (*1)
iPad Pro 11-inch (iPadOS 16)	MRW-G2 (Sony)	CFexpress Type A	About 1 minute
iPad Pro 11-inch (iPadOS 16)	MRW-G2 (Sony)	SDXC UHS-II	About 7 minutes
iPad (6th generation) (iPadOS 14.6)	Lightning to SD Card Camera Reader (Apple)	SDHC Speed Class 6	About 15 minutes

*1 Processing time for geotagging 100 captured still images with the JPEG quality set to [Fine].

Related Topic

- [Supported mobile devices](#)
- [Flight logs and RTK positioning data](#)

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Checking the status of the devices

When you use devices such as the aircraft and the remote controller for flight, device information is automatically collected via the “Airpeak Flight” App and displayed on the [Devices] screen of the “Airpeak Base” App. You can check the usage status, maintenance information, etc. of each device on this screen.

- 1 Click on [Devices] on the “Airpeak Base” App Home page.
- 2 On the [Devices] screen, click on the device whose information you want to check.
- 3 Check the usage status, maintenance information, etc.

Hint

- For detailed information on how to use the “Airpeak Base” App, refer to the “Airpeak Base User Guide.”
<https://base.airpeak.sony.com/userguide/docs/introduction/airpeakbase>


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Calibrating the sensors of the aircraft

Adjust any misalignment of the sensors mounted on the aircraft so that the aircraft can fly in a stable manner. Each sensor functions as follows.

- Compass: Detects the earth's magnetism and measures the direction so that the aircraft can be kept in the correct orientation.
- IMU (*1): Measures the inclination and acceleration/deceleration of the aircraft.
- Stereo camera: Multiple cameras capture objects three-dimensionally and assess the distances to the objects and their moving speeds.

*1 IMU: Inertial Measurement Unit

- 1 Tap [Start flight] on the “Airpeak Flight” App Home page.**
The flight screen will be displayed.
- 2 Tap  (Settings) in the top right of the screen.**
- 3 Tap [Aircraft] in the displayed setting menu.**
- 4 Tap [Sensors/Radio].**
- 5 Tap [Compass], [IMU], or [Stereo camera].**
- 6 Follow the instructions on the screen to complete the calibration.**


Related Topic

- [Calibrating the remote controller](#)

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Calibrating the remote controller

Calibrate the remote controller if you have not used it for a long period of time or if the control sticks and control lever on the remote controller are misaligned.

- 1 Tap [Start flight] on the “Airpeak Flight” App Home page.**
The flight screen will be displayed.
 - 2 Tap  (Settings) in the top right of the screen.**
 - 3 Tap [Remote controller] in the displayed setting menu.**
 - 4 Tap [Details].**
 - 5 Tap [Start] for [Calibrate remote controller].**
 - 6 Follow the instructions on the screen to complete the calibration.**
-


Related Topic

- [Adjusting the sensitivity of the control sticks](#)
- [Calibrating the sensors of the aircraft](#)

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Uploading device logs to the cloud

By default, device logs are uploaded to the cloud automatically. The steps for manual upload are as follows. An internet connection is necessary to upload device logs to the cloud.

- 1 **Connect the aircraft and the remote controller (the main controller in the case of dual operation mode).**
- 2 **Tap [Start flight] on the “Airpeak Flight” App Home page.**
The flight screen will be displayed.
- 3 **Tap  (Settings) in the top right of the screen.**
- 4 **Tap [General] in the displayed setting menu.**
- 5 **Tap [Systems].**
- 6 **Check [Device logs], and if there are any device logs that have not been uploaded, tap [Upload].**

Hint

- If you want to stop automatic upload of device logs, set [Upload automatically] to [Off]. By setting it to [Off], automatic upload of flight logs will also be stopped.


Related Topic

- [Types of logs stored on the aircraft](#)

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Updating the system software

Update the systems software of the aircraft and remote controller. To update the system software, connect the mobile device attached to the remote controller to the internet and perform the following operations with the aircraft and remote controller connected.

- 1 Tap [Start flight] on the “Airpeak Flight” App Home page.**
The flight screen will be displayed.
- 2 Tap  (Settings) in the top right of the screen.**
- 3 Tap [General] in the displayed setting menu.**
- 4 Tap [Maintenance].**
- 5 Tap [Update] for [System software].**
The update wizard will start.
- 6 Follow the instructions on the screen to complete the update.**

Hint


- If a system software update is available, a notification will be displayed on the “Airpeak Flight” App Home page.

Related Topic

- [Features of the “Airpeak Flight” App](#)

Initializing the aircraft and remote controller

you can initialize the aircraft and remote controller.

- 1 Tap [Start flight] on the “Airpeak Flight” App Home page.**
The flight screen will be displayed.
- 2 Tap  (Settings) in the top right of the screen.**
- 3 Tap [General] in the displayed setting menu.**
- 4 Tap [Maintenance].**
- 5 Tap [Start] for [Initialize].**
The initialization wizard will start.
- 6 Follow the instructions on the screen to complete the initialization.**

Note

- Initialization will delete the aircraft's flight logs, remote ID, and link information, and return all the settings to their factory defaults.
- After initialization, mission flights using the flight logs and direct repeat flights will no longer be available.
- Initialization will delete the remote controller link information and return all the settings to the factory defaults.
- Once initialization is performed, the original settings cannot be restored.

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Before disposing of this product

Before disposing of the Airpeak, including the remote controller and/or battery charger, visit <https://www.sony.com/ecotrade>. Recycling information for all products, including batteries can be found.

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General Information

Aircraft/Gimbal

Using the product

- Comply with all applicable laws, regulations and ordinances, including the Federal Aviation Administration's regulations in 14 C.F.R. Part 107, while using the aircraft and remote controller.
- For safety, do not change or modify aircraft components. When installing external devices, be aware of the aircraft weight after installation. Do not install external devices that exceed the maximum payload. As external devices, use only genuine Sony devices or devices recommended by Sony, and install in the correct position as described in the instruction manual. Devices that shift the aircraft center of gravity pose a risk of crashes.

Included AC power cord

Use only the included or Sony recommended AC power cord.

AC adapters

Use only the included or Sony recommended AC adapters.

Carrying components

- When carrying the aircraft, hold it securely by the frame arms. If you do not hold it securely by the frame arms, you may drop and damage the aircraft or hurt yourself.
- When carrying the remote controller, hold it by the handle bar. Do not apply excessive force to the handle bar, control sticks, or mobile device holder, which may damage these parts.
- Be careful not to drop the aircraft or remote controller when carrying these components. Drops may cause damage or injury.

Installing external devices

The aircraft USB port can supply up to 500 mA of current. If overcurrent conditions exceeding 500 mA occur while an external device is installed, it may affect flight performance.

Maintenance and storage

- Thoroughly wipe off any moisture, dirt, or dust on the aircraft, remote controller, battery charger, battery packs, or gimbal with a soft, dry cloth. Be careful when you clean the glass surfaces of the FPV gimbal camera, stereo cameras, and infrared range sensors, as they are easily damaged.
- If there is moisture or foreign objects on the battery pack terminals, terminals in the aircraft battery slots, on battery pack surfaces, or in the battery slots, use a soft, dry cloth or cotton swab to wipe it off.
- If there is moisture or foreign objects on the propellers or propeller attachment points of the aircraft, use a soft, dry cloth to wipe it off. Do not use the product if you notice any chipping, damage, or deterioration.
- Do not use volatile substances such as alcohol or paint thinner as they may damage the parts and cause deterioration.
- It is recommended that you replace the propellers after 100 flights and the battery pack after 200 recharges. You can check the number of times the battery pack has been charged in the "Airpeak Flight" App or the "Airpeak Base" App, but the propeller usage count should be managed by the user. Early replacement is recommended for use in harsh flight conditions. An accident may occur if the replacement period has passed.
- This product contains consumable/wear parts such as rubber parts, motors, etc.
- To use the product safely, regular inspections are required in addition to the preflight checks mentioned in this Help Guide.
- It is recommended that you perform regular inspections after 250 flights or 50 hours of total flight, although it depends on the usage conditions and environment. You can check the number of flights and flight time of the aircraft in the

[Devices] screen of the “Airpeak Base” App.

- Items subject to regular inspection include the following: movement of the moving parts such as motors, condition of the consumable/wear parts, damage or deformation in each part of the cabinet, and basic functions such as the sensors and communication function. Please note that Sony's regular inspection does not include replacement of propellers and batteries. For detailed information, contact the place of purchase or Sony Customer Support.
- The recommended ambient temperature range for storage is 18 °C (64 °F) to 30 °C (86 °F).

Remote Controller

- This product is designed for use only in the U.S.A. Operation is not guaranteed when used in other countries or regions.
- Do not connect the AC adapter to an electronic transformer (travel converter). This may cause heat generation or product failure.
- The wireless transmission function of the product is designed for use only in the U.S.A. Use in other countries or regions may be punishable by law.

Caution when carrying the unit

Carry the unit by the handle bar. The handle bar, control sticks, and mobile device holder may break if excessive force is applied to these parts.

Battery Charger

- This product is designed for use only in the U.S.A. Operation is not guaranteed when used in other countries or regions.

About charging

- Two battery packs can be inserted into the unit, but they cannot be charged at the same time. After one battery pack is fully charged, the other will start charging.
- It may take about 20 seconds to start charging. Wait until the battery level LEDs on the battery pack blink.
- If the battery temperature is too high or low, charging will not start due to the protection function. When the battery temperature enters the chargeable range in a room-temperature environment, charging will start automatically.
- If charging does not start indefinitely, remove the battery pack from the unit, unplug the AC adapter power cord from the wall outlet, and then reconnect it. If charging still does not start, refer to our support website for a solution.
<https://www.sony.com/electronics/support>

Caution when carrying the unit

When carrying the unit, take care not to drop it. If the unit is dropped, this may cause damage to the unit or injuries.

Battery Pack

Charging the battery pack

- Before using the battery pack, be sure to charge it with a Sony dedicated battery charger or a Sony device with a battery-charging function (a device capable of charging this battery pack). To charge the battery efficiently, fully charge it in an ambient temperature of 5 °C - 40 °C (41 °F - 104 °F). See the instruction manual of the device that is to perform charging for details of the charging method and the charging time.
- Do not touch the battery pack while charging is in process.
- Do not charge the battery pack for longer than the specified charging time.

Effective use of the battery pack

Battery pack performance decreases in low-temperature surroundings.

How to store the battery pack

- Do not short-circuit or allow metal objects to come into contact with the battery terminals when carrying or storing a battery pack.
- Do not store the battery pack for long periods in a completely discharged state. For long-term storage, store the battery packs at 50% charge and recharge them once a year.

- When storing the battery pack for long periods, first remove it from the aircraft or battery charger and then store it in a cool place.

Battery life

- The battery life is limited. The battery capacity will decrease little by little with repeated use and over time. If the remaining battery time is considerably shortened, the battery pack is reaching the end of its life. Replace with a new battery pack.
- The battery life varies according to the storage, operating conditions and environment.

Related Topic

- [Parts and controls \(Aircraft\)](#)
- [Parts and controls \(Remote controller\)](#)
- [Turning the aircraft on/off](#)
- [Turning the remote controller on/off](#)

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Troubleshooting

If you experience trouble with the product, try the following solutions.

1 Cycle the power.

Remote controller: Turn off the power and then turn it back on after about 1 minute.

Aircraft: Turn off the power and remove both battery packs. After about 1 minute, reinsert the battery packs and turn the power back on.

2 Check the additional information on our Customer Support Website.

<https://www.sony.com/electronics/support>

If the problem is not resolved, continue with step 3.

3 Upload all flight logs and device logs to the cloud.

For details, refer to “[Uploading flight logs to the cloud](#)” and “[Uploading device logs to the cloud.](#)”

4 Contact our product support.

<https://www.sony.com/electronics/support>

Under “Contact Support,” select the group that best matches your product or question.

Related Topic

- [Turning the aircraft on/off](#)
- [Turning the remote controller on/off](#)

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- Please note that use of an accessory with an Apple product may affect wireless performance.
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