

SPG 2

3-Axis Stabilized Handheld Gimbal
for Smartphone

— Instructions —

Guilin Feiyu Technology Incorporated Company

User Manual EN V1.0

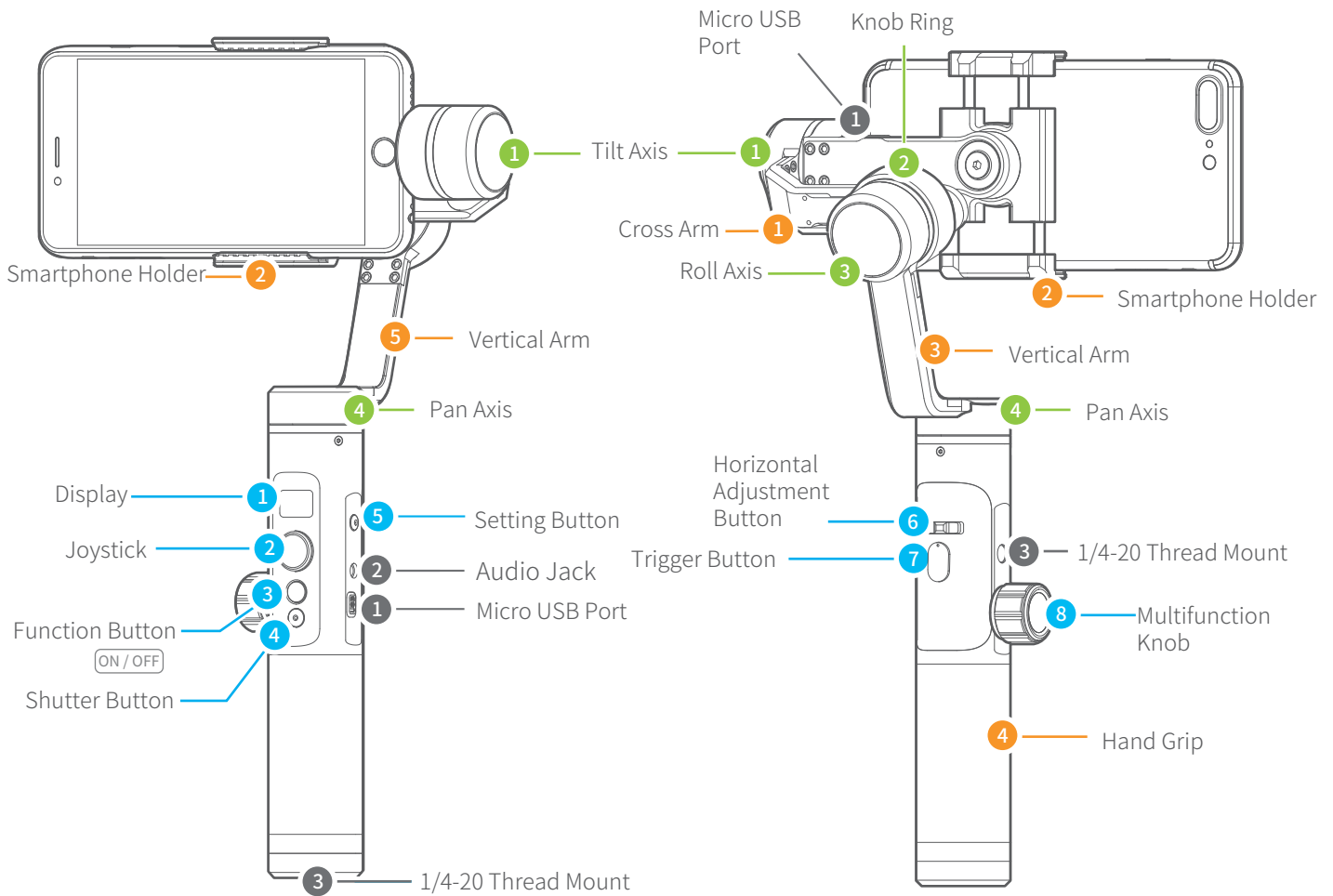
Catalogue

www.feiyu-tech.com

SPG2

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1. SPG 2 Overview



Accessories



Micro USB cable
X1



26650 Li-ion Battery
X1



Tripod
X1

Introduction of Interface and screws

1 Micro USB Port

(1) Used for charging the gimbal (input 5V / 2A), the gimbal can be used while being charged, but it is not available for external power supply.

(2) Used for firmware upgrade (computer), please refer to the firmware upgrade operation steps for details.

Please stuff up this port by the dustproof plug when it is not in use.

2 Audio Jack

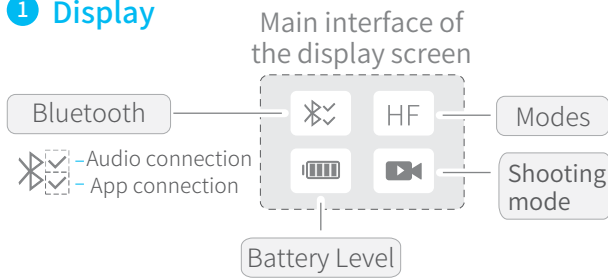
Used to connect the phone to the audio input or output of the phone.

3 1/4-20 Thread Mount

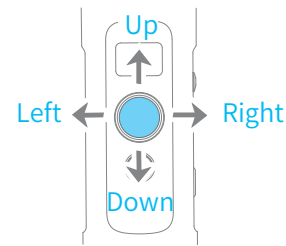
Used for expand other accessories, such as the tripod which built-in 1/4 inch screw, extension rod and so on

Introduction of Display and Buttons

1 Display



2 Joystick



3 Function Button Refer to Page 7

Long press	Power on / Power off
Single tap	Panning Mode / Lock Mode
Double tap	Follow Mode
Triple tap	All Follow Mode
Quadruple tap	Auto-rotation Mode
Five tap	Initialization

4 Shutter Button Refer to Page 7

After the gimbal is connected to the mobile phone through Vicool App, single tap the shutter button to control the phone to take photos, and double tap it to switch between the front and the rear lens of the camera, press and hold to control the video recording.

Please refer to the chapter "App - Download and Connecting" in page 10

5 Setting Button (Connect to the mobile phone APP for use) Refer to Page 8

Long press	Switch the volume interface/Click to exit
Single tap	Click on the main interface to switch to the phone shooting mode

Please refer to the chapter "App - Download and Connecting" in page 10

6 Horizontal Adjustment Button Refer to Page 8

You can control the horizon angle via the horizontal adjustment button.

7 Trigger Button Refer to Page 9

Press and hold	Fast follow mode
Double tap	Reset

8 Multifunction Knob Refer to Page 9

(1) Achieve the control to the focal length of Smartphone, such as follow focus, zoom.

(2) Control the axial angle of the gimbal

Introduction of Axis and Knob

1 Tilt Axis

Take the Smartphone lens as the base point, and control the smartphone lens to move upward or downward by tilt axis.

2 Knob Ring

Used for fixing the cross arm.

3 Roll axis

Take the smartphone lens as the base point, and control the smartphone lens to tilt to the left or tilt to the right by roll axis.

4 Pan Axis

Take the smartphone lens as the base point, and control the smartphone lens to turn left or turn right by pan axis.

Introduction of Other Components

1 Cross arm

Used for adjusting the up and down centre-of-gravity position of smartphone.

2 Smartphone holder

Used for fixing the Smartphone.

3 Vertical arm

Used for connecting the rolling axis and the panning axis.

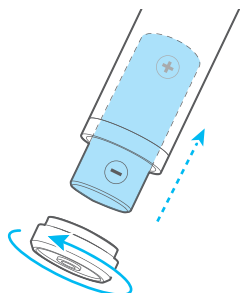
4 Hand grip

Used for holding the gimbal by one hand.

2. Quick Start Guide

1 Install Battery

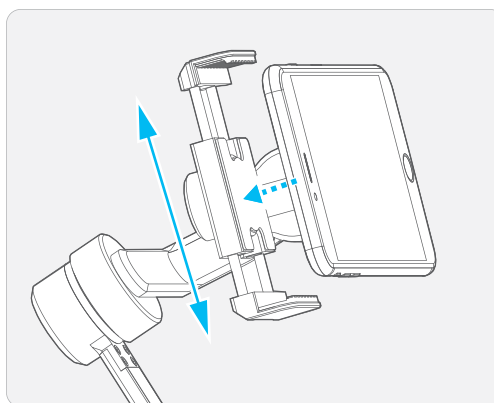
Remove the bottom cap, insert a 26650 battery and then tighten the cap.



Type	26650
Battery Capacity	5000mAh

2 Put the Smartphone on

It's recommended to remove your smartphone protective case.

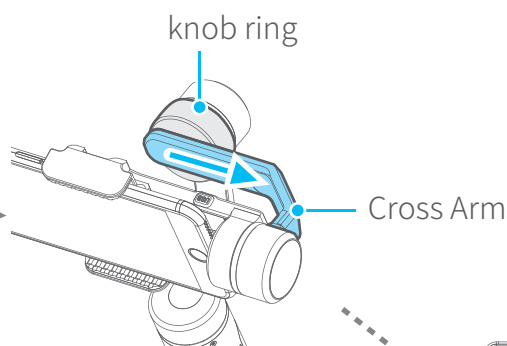


Place smartphone in holder so that the phone is snug against the back of the holder.

3 Balance the Gimbal

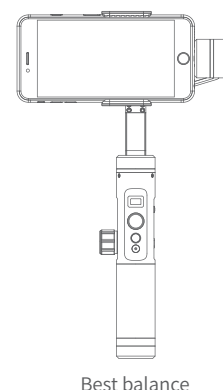
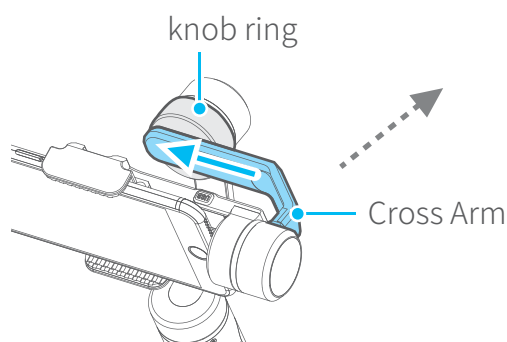
If the phone tilts to left side

- (1) loose the knob ring and slide the cross arm to opposite side
- (2) After sliding right to find perfect balance status
- (3) Tighten the knob ring



If the phone tilts to right side

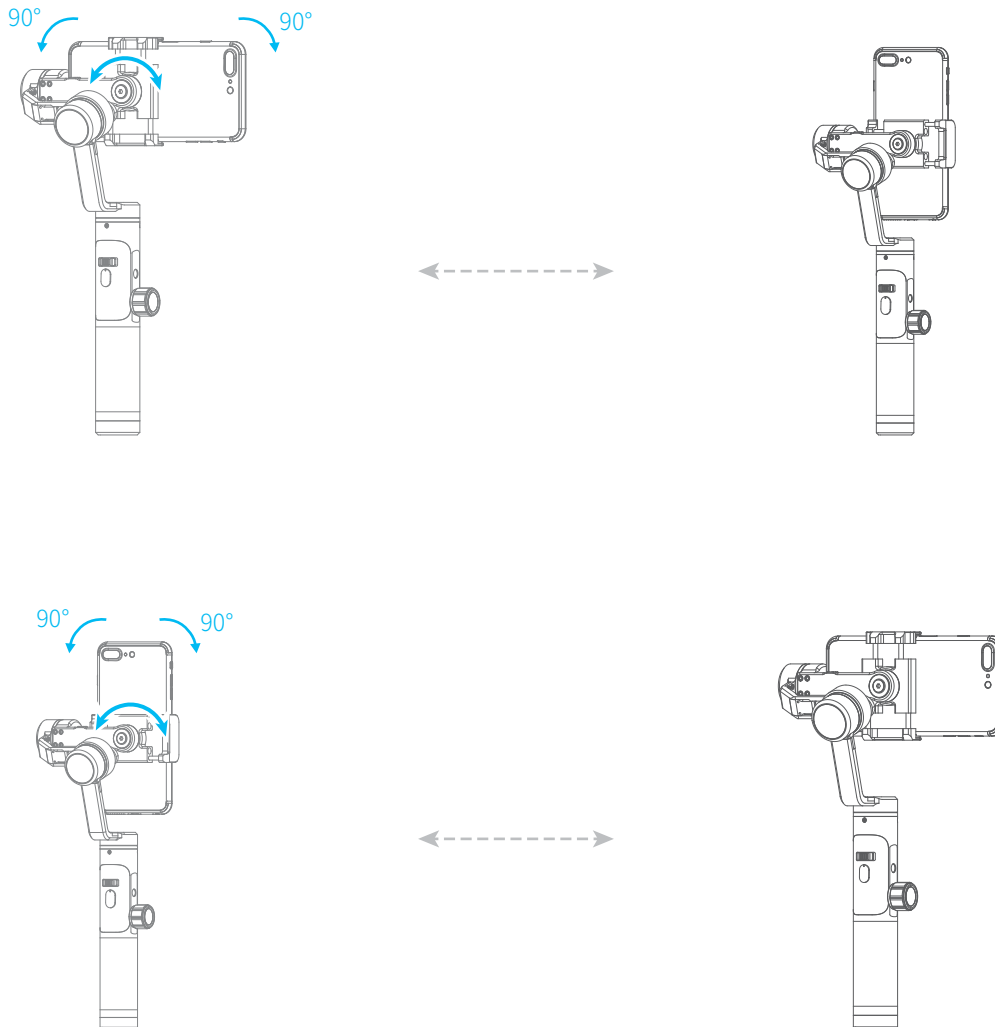
- (1) loose the knob ring and slide the cross arm to opposite side
- (2) After sliding left to find perfect balance status
- (3) Tighten the knob ring



4 Set the horizontal shooting/ vertical shooting of mobile phone

Support clockwise / counterclockwise rotation

Pull the mobile phone fixture to switch between horizontal and vertical shooting, as shown in below picture:



5 Power on / off

NOTE

- (1) Please mount the smartphone before powering on the gimbal.
- (2) When the battery is low, please charge the gimbal.
- (3) When not in use, turn off the gimbal and then remove the battery.

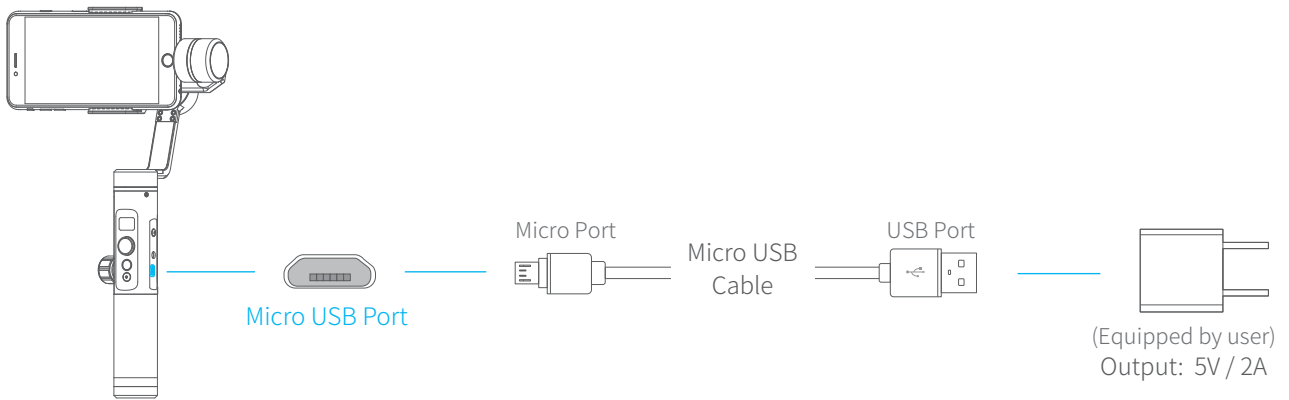
Power on / off: Long press the function button, the display will show **FJ** and release it when you hear the beep tone.

3. Charging

Charging the Gimbal

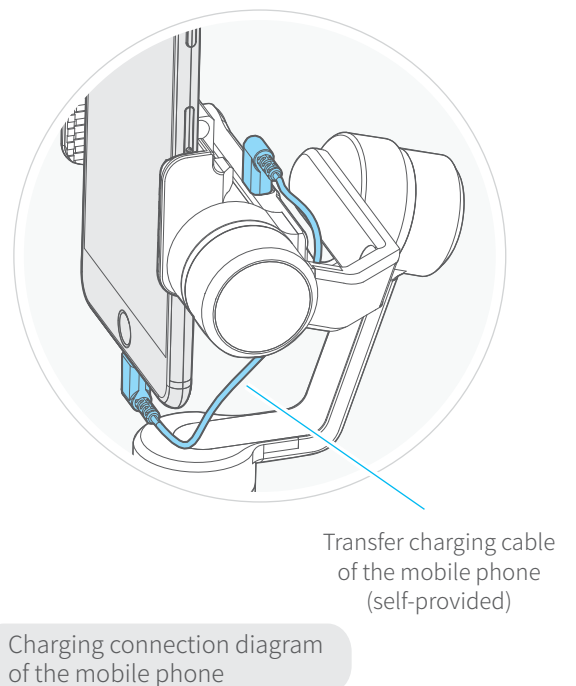
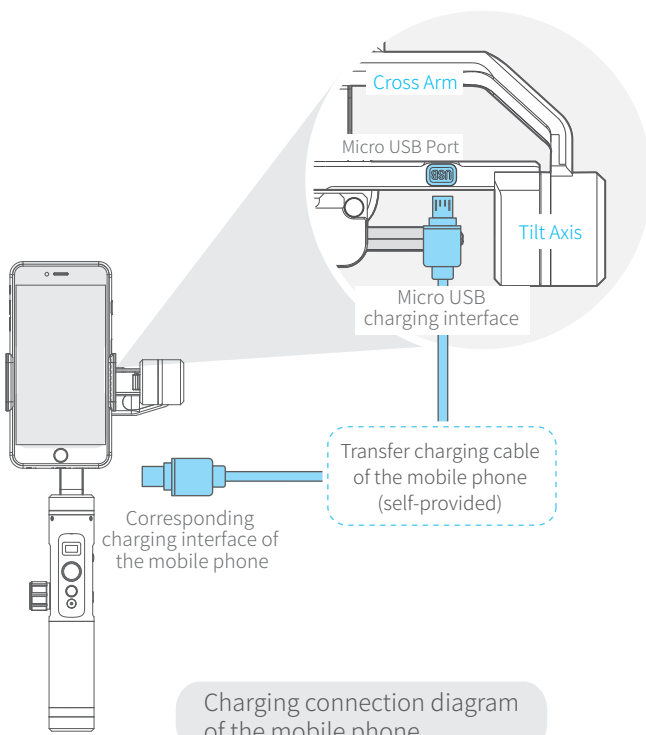
*Please fully charge the battery before power on the gimbal for the first time.

Charging with Micro USB cable as shown below.



Charging the Smartphone

Use the mobile phone transfer charging cable (self-provided) to charge the mobile phone, and select the corresponding charging adapter cable according to the charging port of the mobile phone.



4. Operation

Modes

Panning Mode (Default mode)

The roll and tilt direction are fixed, and the smartphone moves according to the left-right movements of the user's hand.

Follow Mode

The roll direction is fixed, and the smartphone moves according to the left-right movements, up-down movements of the user's hand.

All Follow Mode

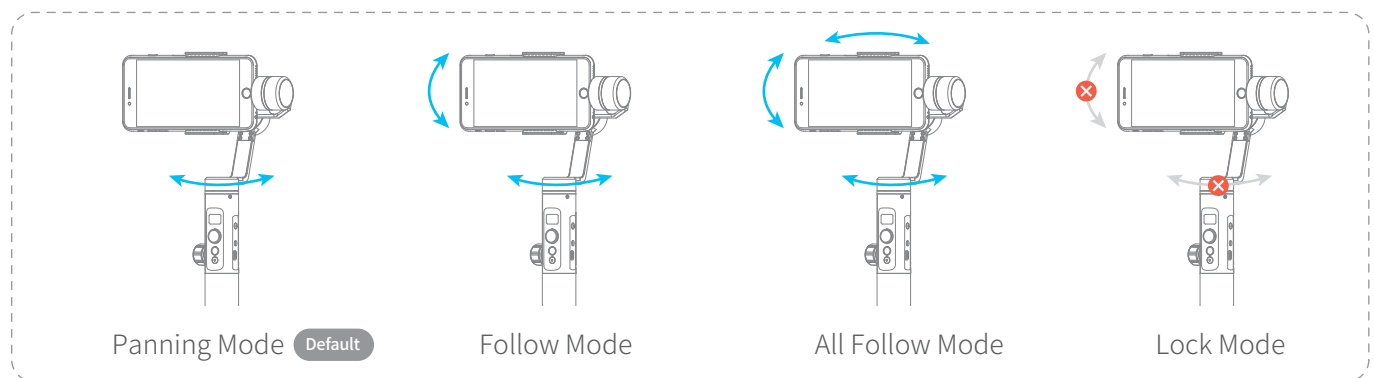
The smartphone moves according to the user's hand.

Reset

Return to panning mode, three axes return to default position.

Lock Mode

The orientation of the camera is fixed.



Introduction of Display

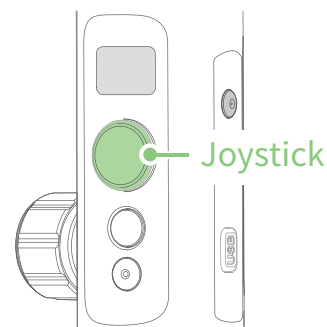
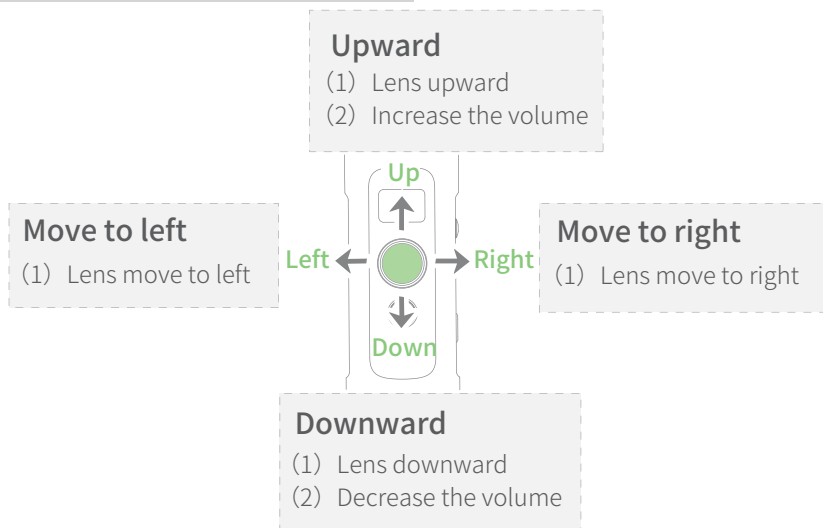
Display icon	Mode / Status
HF	Panning Mode
TF	Follow Mode
AF	All follow mode
LK	Lock Mode
📶	Bluetooth1① is connected Bluetooth2② is connected
📶✖	Bluetooth1① is connected Bluetooth2② is not connected
✖📶	Bluetooth1① is not connected Bluetooth2② is connected
✖📶✖	Bluetooth1① is not connected Bluetooth2② is not connected

Display icon	Mode / Status
🔋	Battery Level
🔌	Charging
📹	Video mode
📷	Panorama mode
👉	Fast motion mode
🐢	Slow motion mode

① Bluetooth 1 is used for connecting the mobile phone with the gimbal via audio; please refer to the “Mobile Phone Audio Connection” section on page 12.

② Bluetooth 2 is used for connecting the mobile phone with the gimbal via APP; please refer to the “App Downloading and Connection” section on page 10.

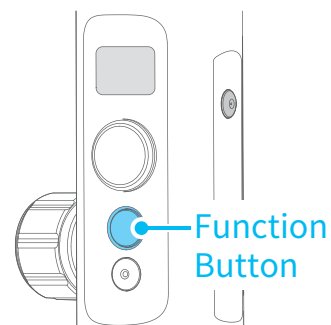
Joystick - operation



Function Button - operation

Note: The firmware upgrade may occur manual operation function and the actual product features do not match. Please find the latest manual on the official website.

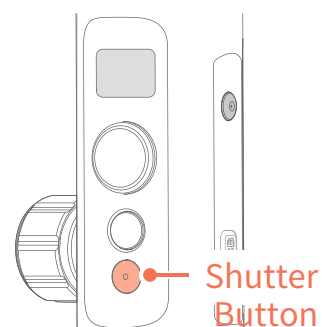
Single tap	Panning Mode / Lock Mode/ Check the battery level	Single tap to switch between panning mode and lock mode Single tap to check the battery level during charging
Double tap	Follow mode	Under the follow mode, single tap to switch to panning mode
Triple tap	All Follow Mode	Enter all follow mode
Quadruple tap	Auto-rotation Mode	Enter auto-rotation mode Please refer to the chapter "Auto-rotation Mode" in page 11
Five tap	Initialization	Enter initialization Please refer to the chapter "Gimbal Initialization" in page 12



Shutter Button-operation

When SPG 2 is connected to the mobile phone via Vicool App, single tap the shutter button to control the phone to take photos, double tap it to switch between the front and the rear lens of the camera, press and hold it to control the video recording.

Single tap	Shooting
Double tap	Switch between the front and the rear lens of the camera
Long press	Start shooting / Stop shooting



Please refer to the chapter "App - Download and Connecting" in page 10

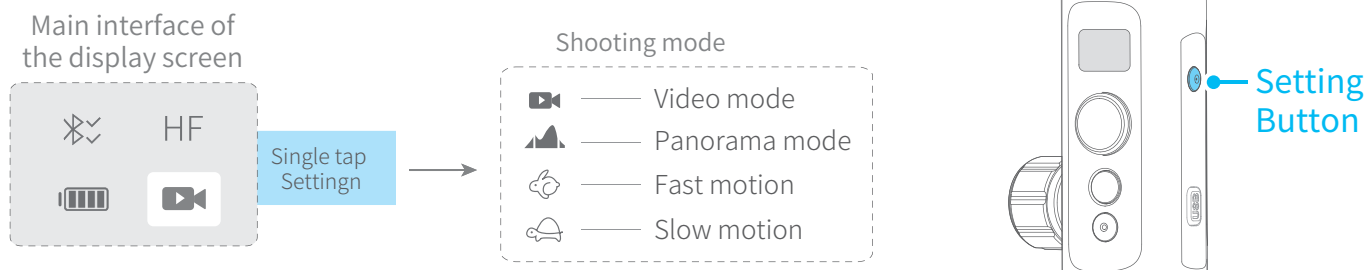
Setting Button - operation

When SPG 2 is connected to the mobile phone via Vicool App, the setting button can switch the phone shooting mode, and the phone volume can be adjusted after connecting to the phone audio Bluetooth.

Please refer to the chapter "App - Download and Connecting" in page 10

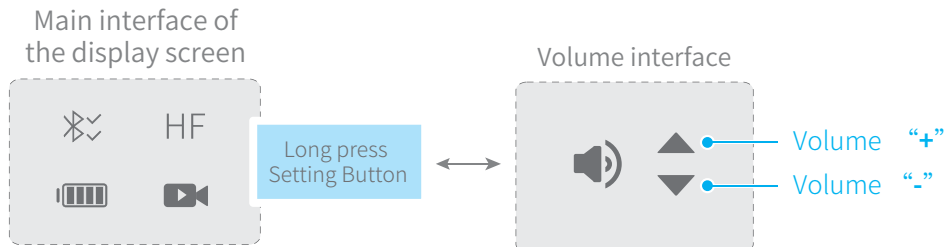
Switch Camera Modes

Single tap the setting button to switch the phone shooting mode



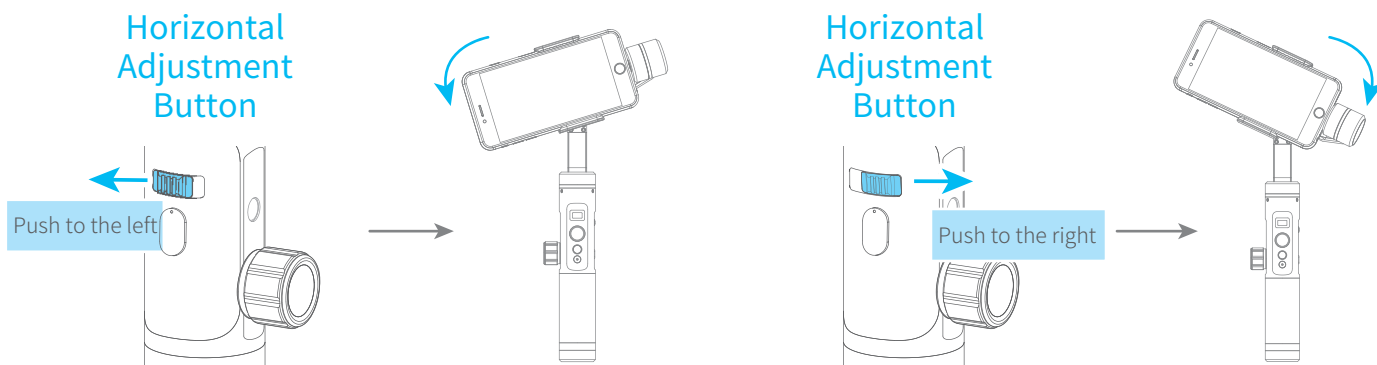
Adjust volume

Press and hold the setting button to switch between the main interface and the volume interface. You can adjust the volume by moving the four-directional joystick up/down (this operation requires connecting to the mobile phone audio Bluetooth)



Horizontal Adjustment Button - operation

You can control the horizon angle via the horizontal adjustment button.



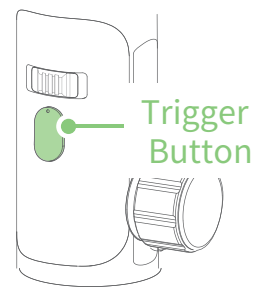
Trigger Button - operation

Press and hold	Fast follow mode
Single tap	Answer/hang up the phone
Double tap	Reset

Press and hold the trigger button in the panning follow, panning and pitching follow modes to enter the fast follow mode, and then release it to return to the mode before entering the fast follow mode

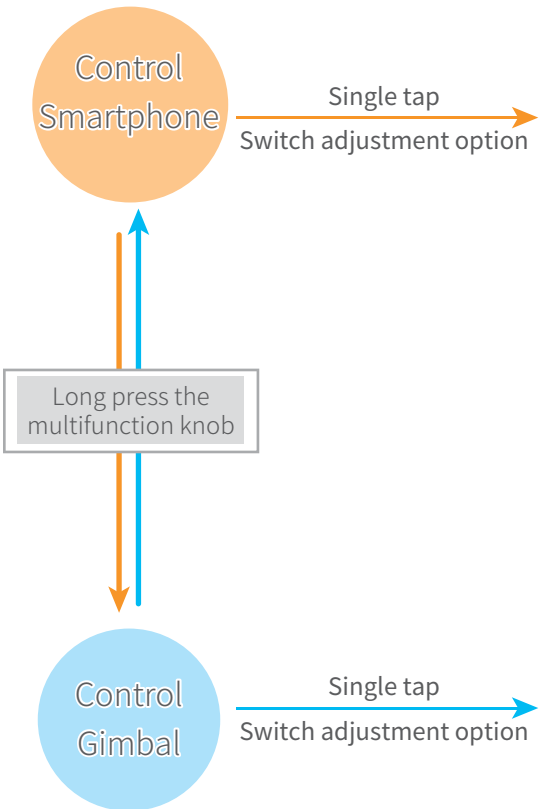
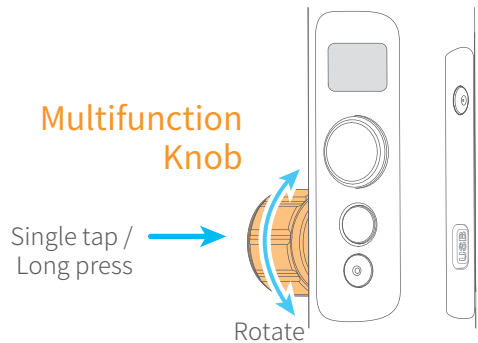
In any mode, when the voice Bluetooth connection is successful and connected to the headset, single tap the trigger button to answer the phone, and single tap again to hang up.

Return to panning mode, tilt,roll and pan axis return to initial level



Multifunction Knob - Zooming control / Follow focus / Control 3 Axis

Single tap	Switch adjustment option
Rotate	Adjust by rotating
Long press	Select the device you want to control



Display	Introduction
Vicool	Adjust the camera parameters

Single tap to switch the option, rotate to adjust the control options, and the phone needs to support digital zoom/follow focus.

* After connecting your Smartphone

Please refer to the chapter "App - Download and Connecting" in page 10

Display	Introduction
Pan Control	Control the pan axis rotation
Roll Control	Control the roll axis rotation
Tilt Control	Control the tilt axis rotation

App - Download and Connecting

* Requires iOS 9.0 or later, Android 5.0 or later

1 Download and Install Vicool App



iOS Version



Android Version

Or search and download the "Vicool" App on the following application platform:



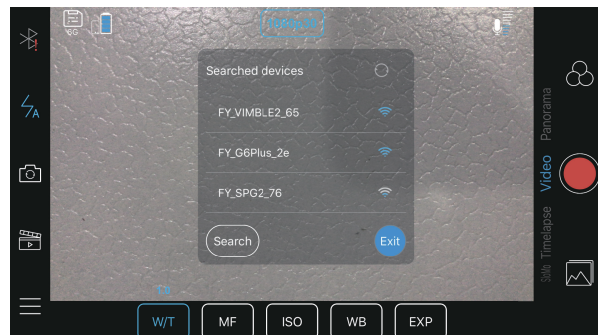
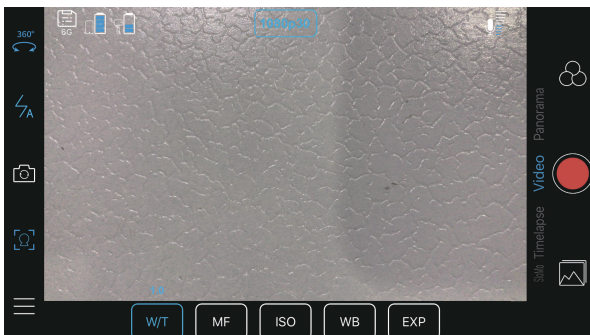
App Store



Google play

2 Connecting App

Turn on the Bluetooth and run the App on smartphone, follow on the instructions to connect smartphone to gimbal via bluetooth.



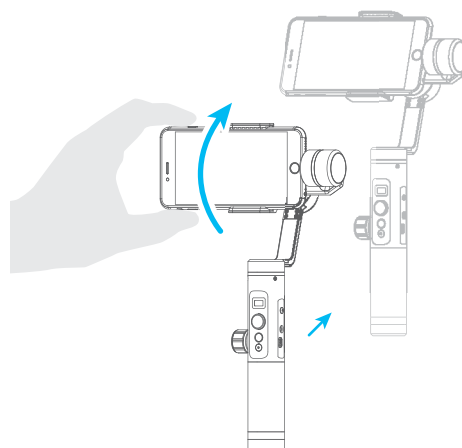
5. Advanced Operation

Manual Lock

Camera can be manually positioned while in panning mode, follow mode or lock mode. Both the pan axis and tilt axis can be manually set up.

Manually move camera to desired position, and hold for half a second. New tilt and/or pan positions are automatically saved.

Take the tilt axis setting for example:



Auto-rotation Mode

The SPG2 gimbal can easily create constant speed movements in the auto-rotation mode. This mode can be used for recording both regular video and motion timelapse photography. For better performance, attach gimbal to the FeiyuTech tripod, or other tripod, to keep it completely still.

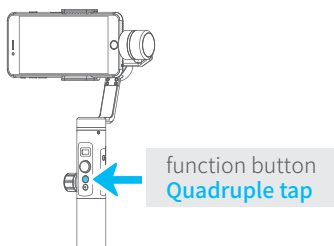
Set rotation speed in Vicool App

Both the pan and tilt directions can be rotated.

Connect to the Vicool App and select desired speed from the auto-rotation mode rate option in the settings menu.

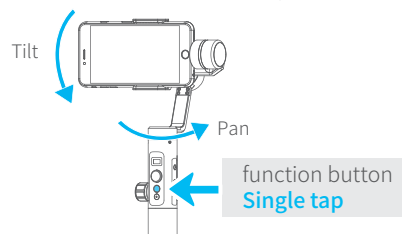
SPG2 Rotation Speed												
9s/turn	18s/turn	24s/turn	30s/turn	1min/turn	2min/turn	4min/turn	8min/turn	15min/turn	30min/turn	1h/turn (Default)	4h/turn	8h/turn

(1) Enter auto-rotation mode



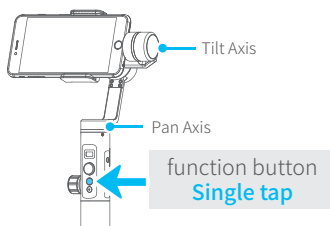
(2) Set rotation start position

Record the first position (rotation start position) by manually moving camera to desired position. Hold in position for half a second. Single tap the function button to record rotation start position.



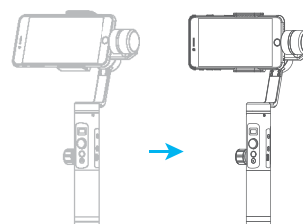
(3) Set rotation end position

Record the second position (rotation end position) by manually moving camera to desired position. Hold in position for half a second. Single tap the function button to record rotation end position.



(4) Start auto rotation movements

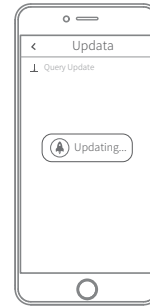
The gimbal automatically restores to the start position, while the tilt axis and pan axis start rotating at a constant speed according to pre-set speed to end position, repeat step (2) (3) to start again.



Exit → Double tap Trigger button → Exit the auto-rotation mode and reset

Firmware Upgrade

Upgrade firmware via App



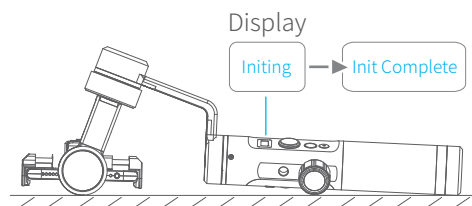
Mobile phone audio connection

Turn on the phone Bluetooth and connect to FY_SPG2AUDID_XX, after the connection is successful, the phone audio can be input or output through the audio jack of SPG 2.

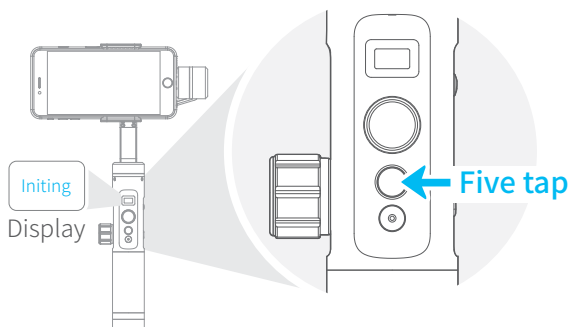
Gimbal Initialization

You can initialize your gimbal when:

- When smartphone is not level
- If not used for a long period of time
- In case of extreme temperature variations



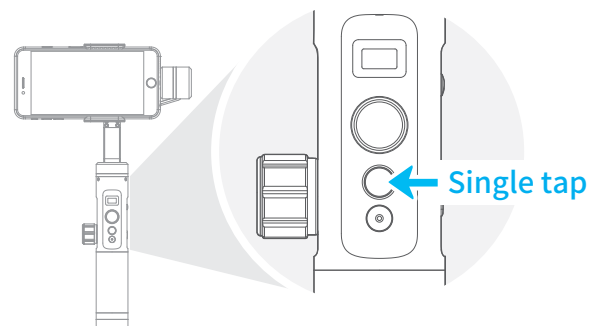
Adjusting Steps



- 1 Tap the function button for 5 consecutive times and hear the "beep" sound, and the motor will stop working and "Initing" shows up.

2

Place the gimbal on the table unmoved, and the gimbal automatically detect whether or not it is placed on a static flat surface, and then its initializing will start automatically showing "Initing" on the display, and "Init Complete" will be displayed after the initializing has been successfully completed.



3

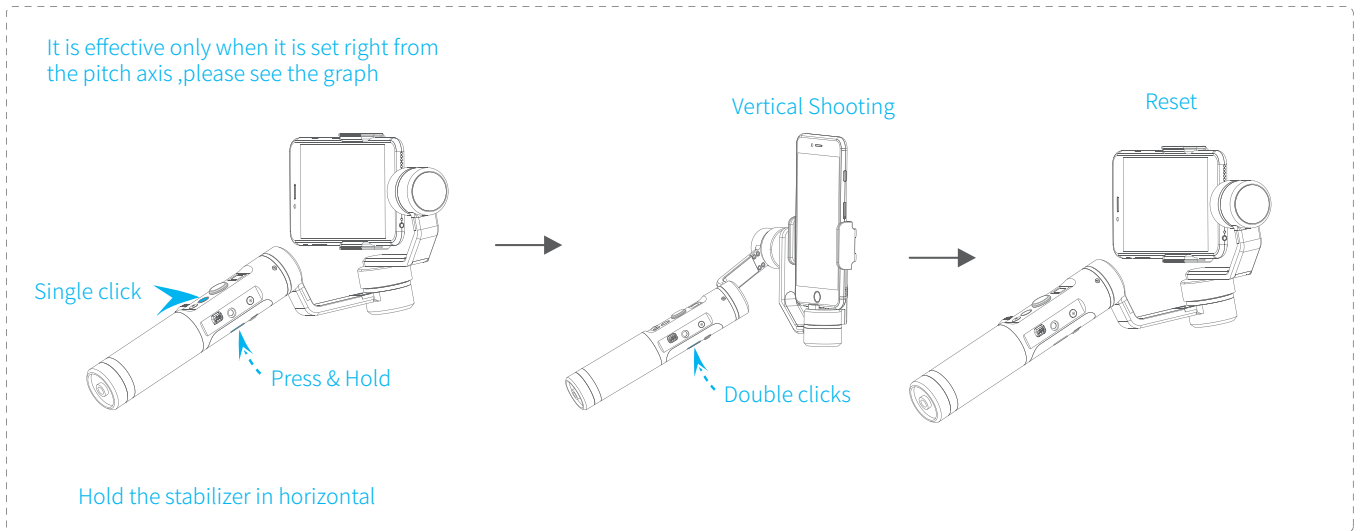
After the initialization is done, single tap the function button to wake up and return to the main interface.

NOTE: If the initialization is not successful for a long time, long press the function button to turn off the gimbal, restart it and then initialize.

Vertical Shooting

Press and hold the trigger button in the horizontal shooting mode and then single click the function button to switch to the vertical shooting mode.

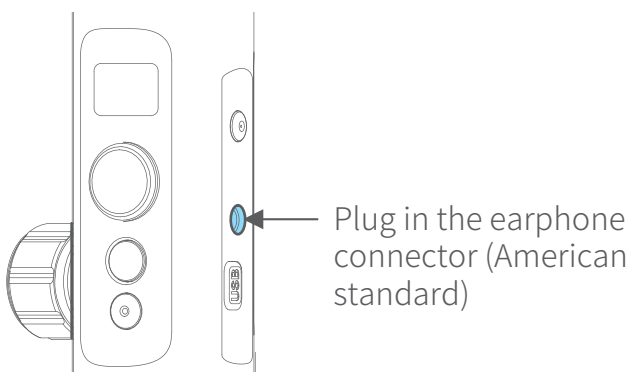
Double click the trigger button to exit the vertical shooting and restore to the horizontal shooting mode.



Bluetooth radio

Note: The audio jack at the SPG2 handle is suitable for American standard earphones. To use the Chinese standard earphones, you need to use the conversion cable (self-prepared).

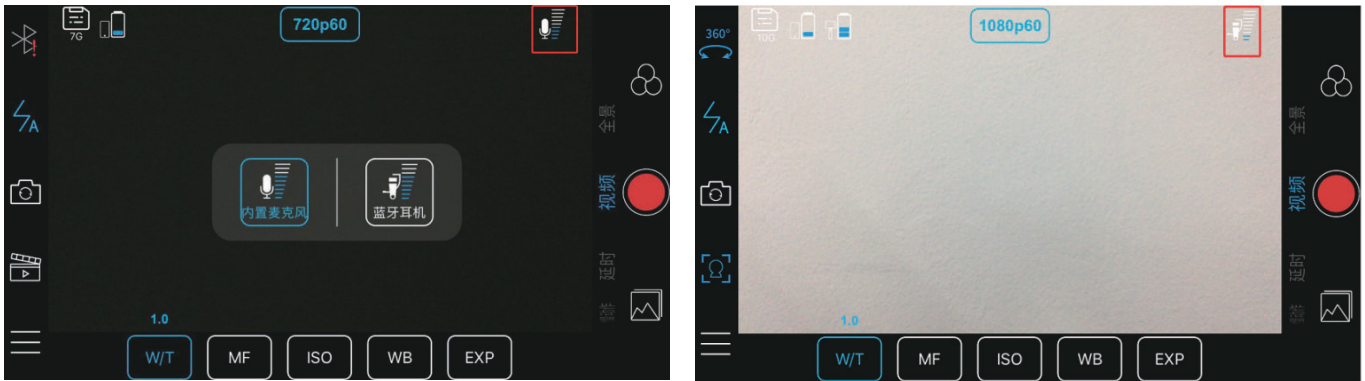
1 Turn the gimbal on and plug the earphone connector into the audio jack on the right side of the SPG2 handle.



2 Turn on the mobile phone Bluetooth and connect to FY_SPG2AUDID_XX. After the connection is successful, press the shutter button on the handle. If the volume appears on the phone interface (as shown in below picture), the connection is successful.



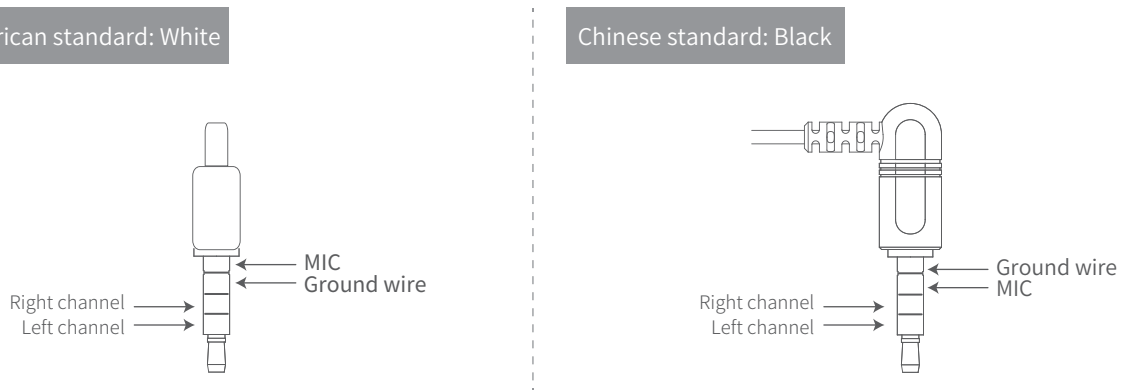
- 3 Open the Vicool App, after the connection is successful, click the volume icon at the top right corner of the interface, select “Bluetooth Earphone”, blow or talk to the sound hole of the earphone, and the icon at the top right corner of the screen has sound waves, which indicates the reception is OK.



- 4 Press and hold the shutter button for about 1 second to start video recording. After the video recording is completed, you can play back the video in the album and listen to the audio effects from the earphones. Or disconnect the Bluetooth with the gimbal from the Bluetooth list on your mobile phone to listen to the audio effects from your mobile phone.

Precautions:

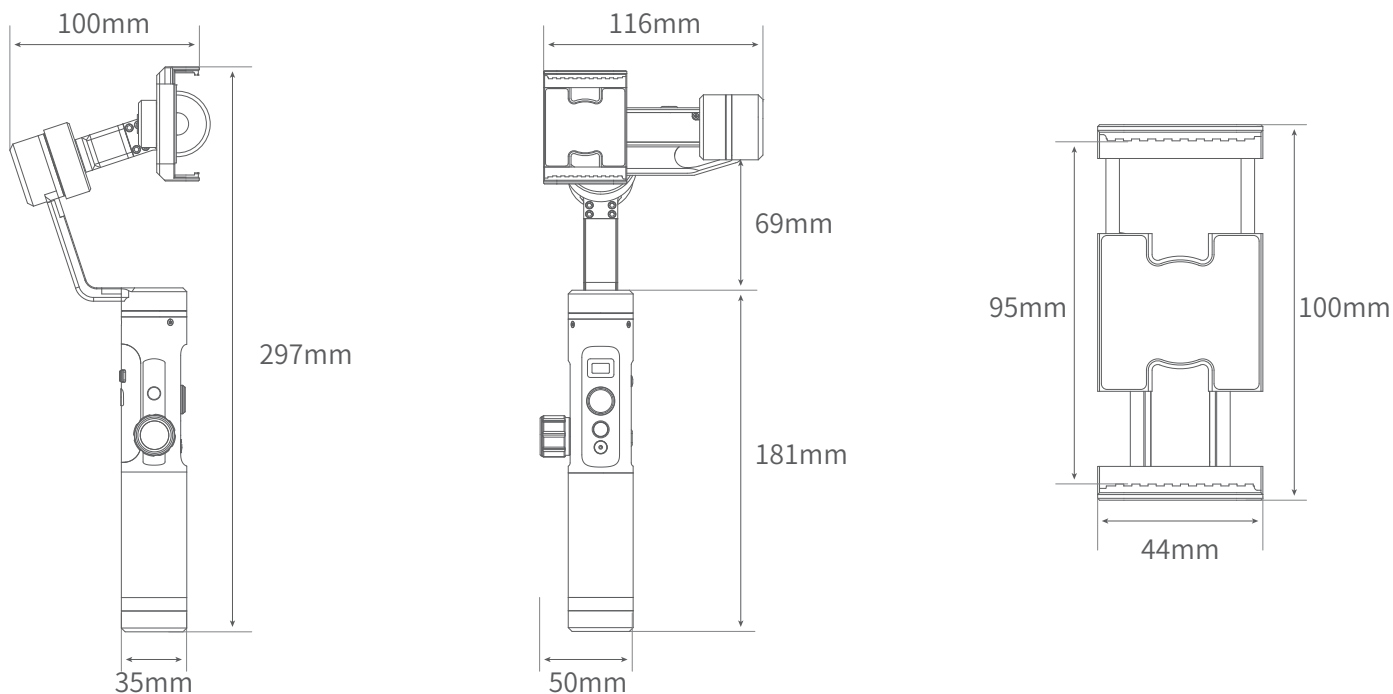
(1) When using the earphone for recording, please note that the audio jack at the SPG2 handle is suitable for American standard earphones, to use the Chinese standard earphones, you need to use the conversion cable. Most of the American standard and Chinese standard earphones can be distinguished by the color of the insulation ring. American standard: White; Chinese standard: Black.



(2) When using a microphone equipped with a camera, the corresponding mobile phone patch cable is required, the interface of the patch cable is suitable for mobile phones and is the American standard.

(3) SPG2's Bluetooth radio is not available for the phone's camera, it needs to be used with the Vicool APP, or some live or video app, such as the iOS client end of Tik Tok.

6. Specifications



Product Name	SPG2 3-Axis Stabilized Handheld Gimbal for Smartphone
Max. Tilting Range	320°
Max. Rolling Range	320°
Max. Panning Range	360°
Tilting Speed	2°/s ~ 75°/s
Panning Speed	3°/s ~ 150°/s
Operation Time	14 Hours
Weight	440g (exclude the battery and smart phone)
Adaption smart phone	IPhone series and Android series (width 54mm~95mm)

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

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

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC ID: 2AHW7-SPG2

Administrative Regulations on Low Power Radio Waves Radiated Devices warning:
Article 12

Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to a approved low power radio-frequency devices.

Article 14

The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved.

The said legal communications means radio communications is operated in compliance with the Telecommunications Act.

The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Guilin Feiyu Technology Incorporated Company

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Due to software and hardware improvements, your actual product might differ from the descriptions and pictures in this user manual. You can get the latest user manual from the official website.

For more information, please visit our official website



DISCLAIMER

Prohibit any user for any illegal purpose. Users will be responsible for all behaviors of purchase and use products.

The Company assumes no liability for any risks related to or resulting from the debug and use of this product (including the direct, indirect or third-party losses).

For any unknown sources of using, we will not be at any services.

The updating and changes of product firmware and program may cause changes in function descriptions in this user manual, please read the instructions carefully before upgrading the firmware and use the corresponding user manual.

You can get the latest user manual from the official website: www.feiyu-tech.com

FeiyuTech reserves the right to amend this manual and the terms and conditions of use the gimbal at any time.