PIRO MINIUser ManualV1.0

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Disclaimer and Warning

Thank you for purchasing our PIRO MINI robot. Please read this statement before using this PIRO MINI for the first time, and once you have started using it, you are deemed to have recognized and accepted the entire contents of this statement.

When you are using PIRO MINI Intelligent Photograph Robot, please do not adjust its mechanical structure by yourself. In view of the Company's inability to control the use, installation, assembly, modification (including the use of non-designated official parts) and improper use, the Company will not be liable for any damages or damages arising from the damage or harm caused by the above.PIRO MINI is an excellent video capture device that prohibits any user from using it for any illegal use. The user will be responsible for any purchase and use act of PIRO MINI, and the Company shall not provide any service for any PIRO MINI obtained from non-normal channels.

There is a theme page about PIRO MINI on the official website of the Company. Through the page, you can get the relevant introduction information about PIRO MINI and user manual and video.

Please confirm that whether you are using the latest version of the manual according to the version number. If not, please download and use the latest version of the manual. This manual is subject to change without notice. If you encounter problems that cannot be solved during installation and use, please contact us for help.

For details of this Statement, please refer to national laws and regulations. When this Statement conflicts with national laws and regulations, the national laws and regulations shall be prevailed.

1、 Summary

1.1: Introduction to PIRO MINI

PIRO MINI is an excellent capture and autostability mobile phone, equipped with high precision of three axes PTZ, integrates advanced PTZ autostability algorithm. Through the use of the equipment, users enable the mobile phone to capture the clear and stable image and video in a moving environment.Products can be connected with "Areox Play" APP by Bluetooth, and then achieve face recognition, target tracking, 9 square capturing, 180°/360°panoramic capture and other innovative capture features, making application scenarios of the product more rich.

1.2: Component recognition
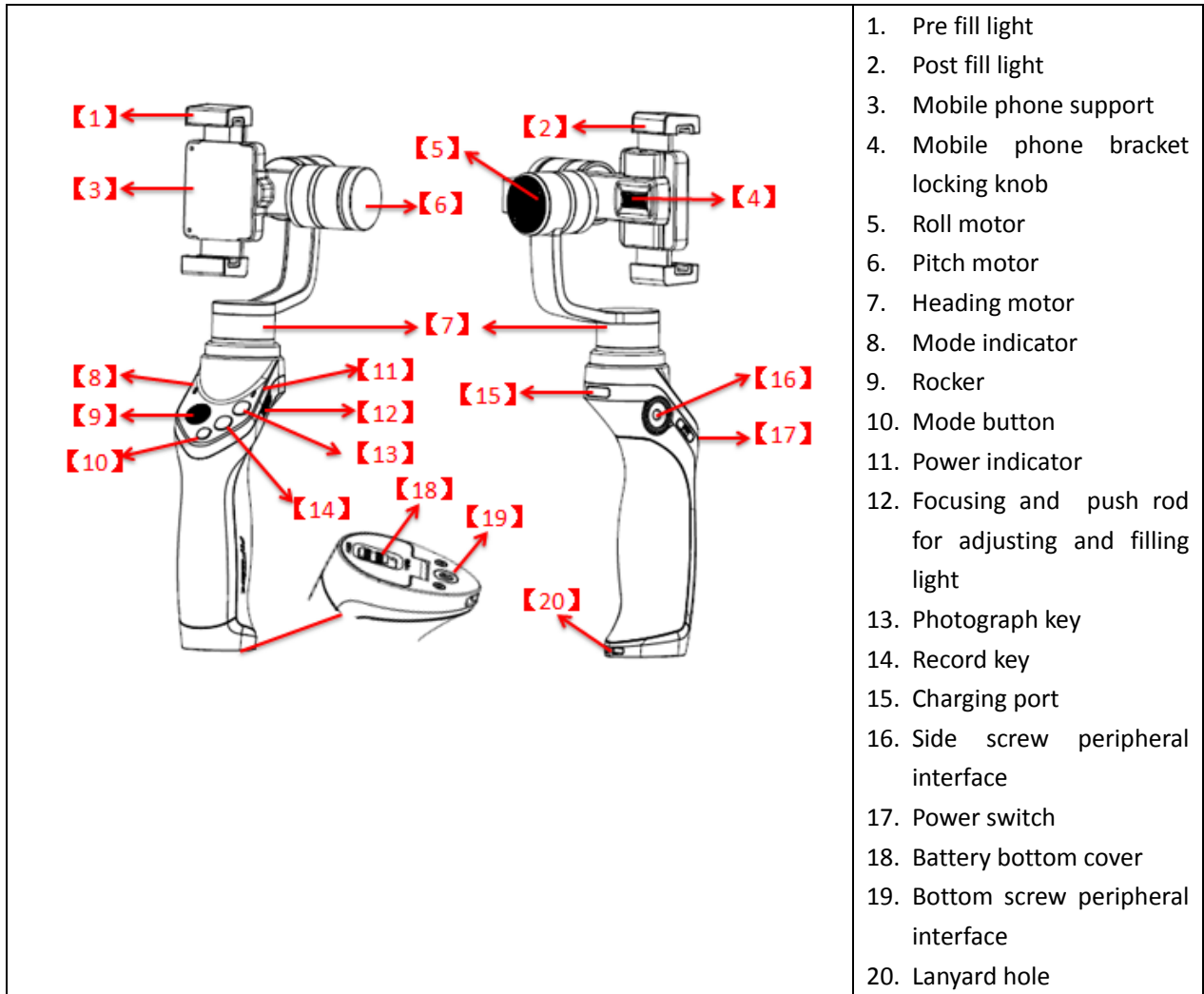
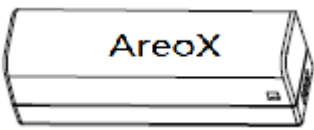|	
	1. Pre fill light 2. Post fill light 3. Mobile phone support 4. Mobile phone bracket locking knob 5. Roll motor 6. Pitch motor 7. Heading motor 8. Mode indicator 9. Rocker 10. Mode button 11. Power indicator 12. Focusing and push rod for adjusting and filling light 13. Photograph key 14. Record key 15. Charging port 16. Side screw peripheral interface 17. Power switch 18. Battery bottom cover 19. Bottom screw peripheral interface 20. Lanyard hole

1.3: Component function definition

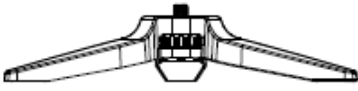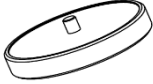| SN	Component name	Function description
1.2	Pre fill light Post fill light	Mobile phone clip is equipped with front and rear LED fill light, multi-position is used to adjust the brightness of fill light, front and rear fill light, convenient to capture under dark light.
3	Mobile phone support	Used to fix 4 to 6.3 inch intelligent mobile phone.
4	Mobile phone bracket locking knob	Through adjusting the phone bracket locking knob, you can open or close mobile phone support, fix the mobile phone.
5.6.7	Motor	Used to smoothly and stably control the rotation direction and angle of mobile phone, keep capture autostable.
8	Mode indicator	1. Blue On: Horizontal lock mode (default). 2. Green On: Three-axis lock mode. 3. Red On: fill light adjustment mode.
9	Rocker	Used to adjust the capture angle of camera device.

10	Mode key	In the case of a mobile phone connects with a PTZ Bluetooth: Short-time pressing mode key can switch between different modes. Long-time pressing mode key can turn off the phone screen, you can press any key to wake up the screen again.
11	Power indicator	1. Green On: Power on or the charging for PIRO MINI is completed. 2. Red On: PIRO MINI is charging. 3. Red flashing: PIRO MINI is low. 4. Yellow flashing: PIRO MINI enters the protection mode, press any key to resume work.
12	Focusing and push rod for adjusting and filling light	When the PTZ mode indicator is blue or green, adjust the handspike, you can adjust the focal length of the shooting screen of the phone APP. When the PTZ mode indicator is red, adjust the handspike, you can open the front and rear fill light of the mobile phone clip, and adjust brightness of the fill light.
13	Photograph key	Press it to take pictures in real time.
14	Record key	Press it to start to record and press it again to stop recording.
15	Charging port	Charge the PIRO MINI by connecting with a dedicated charger.
16	Sidescrew peripheral interface	Normal 1/4 screw interface used to connect with the base, tripod leg, bicycle support, vehicle support and other accessories, which enable users to expand the demand for other accessories.
17	Power switch	ON: turn on the power. OFF: turn off the power.
18	Battery bottom cover	Open the battery compartment bottom cover, you may remove or install the exclusive smart battery for PIRO MINI.
19	Bottom screw peripheral interface	Standard 1/4 screw interface used to connect with the base, tripod leg, bicycle support, vehicle support and other accessories, which enable users to expand the demand for other accessories.
20	Lanyard hole	Used for the installation of lanyard.

1.4: PIRO MINI accessories

PIRO MINI products are equipped with a wealth of accessories by Mars Exploration, enable that they can be used more convenient in a variety of occasions. Other related accessories, such as: intelligent batteries, self-stabilizing base, clump weight, etc., can be selectively bought through official channels.
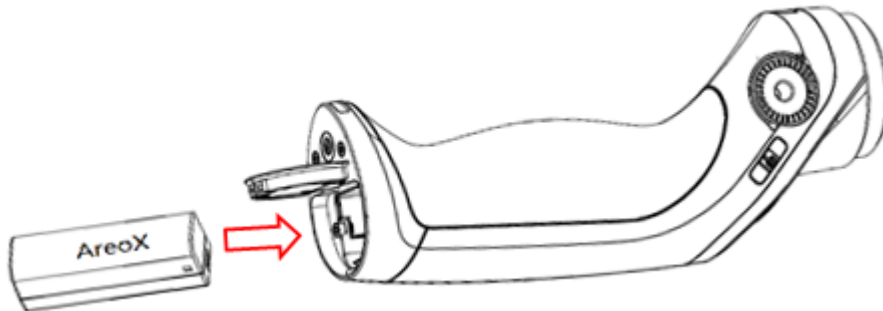
Intelligent battery (standard)	
PIRO MINI has specifically designed a capacity of 980mAh intelligent battery for users, with a variety of protection functions and accurate intelligent power calculation function, can provide the battery life up to 8H.	AreoX
Self-stabilizing base(optional)	

Connected to the bottom of the PIRO MINI for stably placing products, convenient to be used in the case of living, family gatherings, meetings or interviews.	
Clump weight (optional)	
The counterweight mounted on the pitch axis and the horizontal roller shaft of the PIRO MINI is used to adjust the balance of the phone assembly when the phone is seriously heavy. (Not required in a normal assembly)	

2、 Installation

2.1: Battery installation

Before using the equipment, you need to install the standard intelligent battery. Open the battery compartment bottom cover, push the battery into the battery compartment according to the direction as shown, and then lock the battery compartment bottom cover to ensure that the battery is steadily installed in the device. In order to protect the battery, to prevent over-discharge, the battery before the factory are low-power state, before the use of the product, please guarantee the battery is fully charged, which enables it return to normal working state.

Battery specifications:
Battery type: Intelligent Battery.
Battery material: Lithium polymer (Li-Po)
Battery capacity: 980mAh
Battery energy: 10.8Wh
Charging ambient temperature: 5 ℃ -40 ℃
Use ambient temperature: 0 ℃ -40 ℃

Warning:
1. In the case that not used for a long time or in the transport state, be sure to remove the battery from the product, to avoid transport or storage of the product with battery.
2. Before using the PIRO MINI intelligent battery, please strictly follow the attentions of the use of intelligent batteries and disclaimers in the request, the consequences caused by users who use the product against the requirements shall be assumed by users.

2.2：Mobile phone installation

After completing the installation of battery, you shall install the mobile phone on the device. Under the condition that the PIRO MINI power supply is off, adjust the locking knob of the mobile 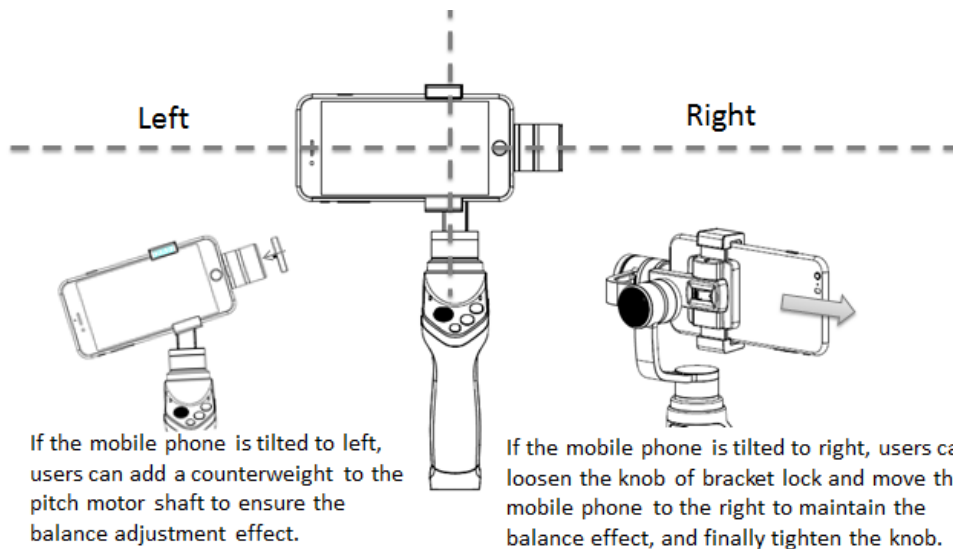phone support, so that the mobile phone can be stably arranged in the bracket, and tighten the knob. When installing a mobile phone at the first time, let the right side of mobile phone closely attach to mobile phone support.
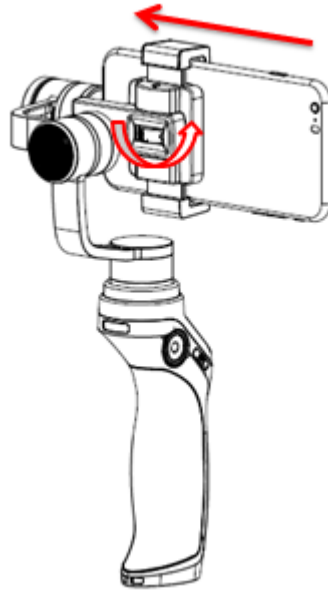
2.3：Balance adjustment

Place the PIRO MINI of well installed mobile phone as shown below. Keep the handle stationary, if mobile phone can autonomously maintain horizontal, indicating that they are adjusted successfully. If it tilts toward left or right, please adjust balance follow the instructions below.

Left   Right

If the mobile phone is tilted to left, users can add a counterweight to the pitch motor shaft to ensure the balance adjustment effect.

If the mobile phone is tilted to right, users can loosen the knob of bracket lock and move the mobile phone to the right to maintain the balance effect, and finally tighten the knob.
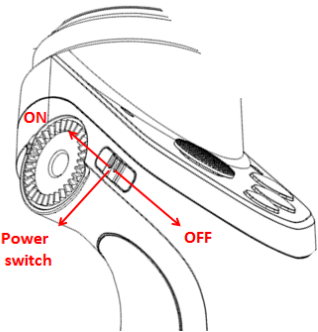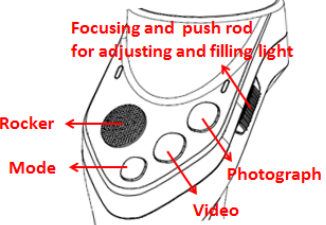
Note 1: when the device is not installed, it is not recommended to open the PIRO MINI power supply directly, if the mobile phone device is not detected by the PIRO MINI, PTZ motor will appear transient jitter and then enter the protection state.

Note 2: after the installation of device, to adjust the balance of the device before charging, excessive tilt towards left or right will increase motor load, increase power consumption, even will cause PIRO MINI enter protection state, and thus affect the working performance of MINI PIRO.

3、 **Use**

  3.1：**Handle function**

  There are a power switch, a focusing key and a fill light key on the side of PIRO MINI handle. And there are a joystick key, a photograph key, a video key and mode selection key in the front.

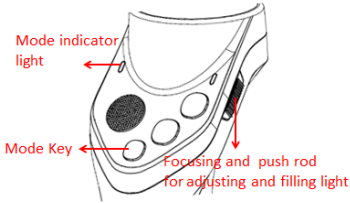|	
A．Power switch.The PIRO MINI handle has a power switch key. Turn on the power, then push the key up and display the ON state. Turn off the power and push down the key to display the OFF state.	
B．Rocker. PIRO MINI is equipped with a four-direction adjustment rocker. In the operating mode: toggle the rocker toward left or right to control the turning of lens toward left or right. Turn the joystick up or down to control the turning of lens toward down or up.	
C．Mode selection key. PIRO MINI is equipped with mode selection key. You can switch between different modes (see section 3.2 for specific operating modes).	
D．Video key. When the mobile phone is connected to PIRO MINI Bluetooth, click it and start to record and click it andstop to record again.	
E．Photograph key. When the mobile phone is connected to PIRO MINI Bluetooth, click it and take photos.	
F．Focusing andpush rod for adjusting and filling light. When the PTZ mode indicator is blue or green, adjust the handspike, you can adjust the focal length of the shooting screen of the phone APP. When the PTZ mode indicator is red, adjust the handspike, you can open the fill light before and after the phone clip, and adjust brightness of the fill light .	

3.2：Working Mode

PIRO MINIhas two main working modes and four auxiliary working modes to meet the shooting needs of different scenes, the main working modes can be switched by the "mode selection" key of product, and auxiliary working mode can be switched in the APP. The specific modes are described below:

A、Mainly Working Mode:

Horizontal lock mode: Horizontal lock mode is the default mode. The mode indicator indicates in blue. In this mode, the lens smoothly follows the handle in the horizontal direction and then makes a corresponding adjustment. While the other direction of the handle changes, the lens is also locked in the horizontal direction.

Three-axis lock mode: The mode indicator indicates in green. In this mode, the phone's spatial position and attitude angle are all locked, no matter how rotating the product handle, the lens is always fixed in the set position and angle before shooting to shoot. At this time, through the handle on the rocker, you can adjust the lens screen.

Mode indicator light Mode Key Focusing and push rod for adjusting and filling light	**Mode selection key:** As shown in the left figure, the bottom key is the mode selection key. The corresponding indicator of the mode selection key on the upper left. **Mode switching operation:** Click mode selection key, press it at a short time and you can switch the different modes, corresponding indicator indicates different colors.

Indicator color	Corresponding mode
Blue On	Horizontal lock mode. You can adjust the picture focal length of APP with the right key
Green On	Three-axis lock mode. You can adjust the picture focal length of APP with the right key
Red On	The right key can turn on the front and rear fill light of phone clip and adjust its brightness.

B、Auxiliary Working Mode:

Target follow mode: select the mode, the APP on the phone can be identified and locked by algorithm. Through drawing a yellow box on the screen with a finger, users can trap the target object. As long as the target is recognized successfully, the box becomes red, that is, PTZ locks the target, and it moves along with the target and adjusts the shooting screen accordingly.

9 square capturing: choose the model, the PTZ is the current horizontal perspective.

Take nine photos to compose a photo on the left, right, top, center, below of the speed dial, the size of composed photos will be at least nine times than the perspective of photos taken currently, and you can take a panoramic photograph of wide viewing angle.

180°shooting mode: select the mode, and then use the rear camera, PIRO MINI will take the current perspective as the center, rotate it counterclockwise at 90°, then clockwise at 180°, take 5 photos, and compose them into a 180° panoramic photograph.

360°surround mode: select the mode, and then use the rear camera, PIRO MINI will automatically adjust the horizontal screen, it slowly rotates at 360°automatically, take 9 photos, and then compose them into a 360°panoramic photograph.

3.3: Connection Mode

PIRO MINI connects to mobile phone via Bluetooth, PIRO MINI has a built-in Bluetooth module, via download the official APP "Areox Play" of Mars Exploration to users' mobile phone, and then click the connection wizard, it can wirelessly connected to the PIRO MINI Bluetooth, PIRO MINI, and thus control shooting, video, mode selection and other functions of PIRO MINI via handle key and APP interface. Specific connection steps and methods refer to section 4.2: Areox Play APP connection.

4 、AreoxPlay APP

4.1: Download and installation

The PIRO MINI can be used with the "Areox Play" App to display high-definition shooting pictures on the device. Camera settings and PTZ settings enable a variety of shooting modes to be realized.

IOS users search for "Areox Play" in App Store, then download and install it.

Android users search for "Areox Play" in Google Play or Baidu application market, and then download and install it.

Or visit the official website: www.areox.com. Download Android APP on the page of PIRO MINI product.

You can also obtain the download address of Android App by scanning the two-dimensional code as follows:


Note: please scan with the mobile phone browser, you can download files directly. When scan by WeChat, only download site occurs)

4.2, Connect with "AreoX Play" APP

After the balance adjustment,The phone Bluetooth need to connect with the "Areox Play" App, the specific steps are as follows:

1. Start the mobile phone Bluetooth, and remove the rotation lock of phone screen, so that the phone can display with transverse screen.
2. Adjust the balance of mobile phone, and turn on the PIRO MINI power, then waiting for PTZ powered to maintain balance.
3. Run Areox Play App on the mobile phone, and connect to PIRO MINI according to the prompt. As long as successfully connected, the mobile phone can display the real-time capture screen.
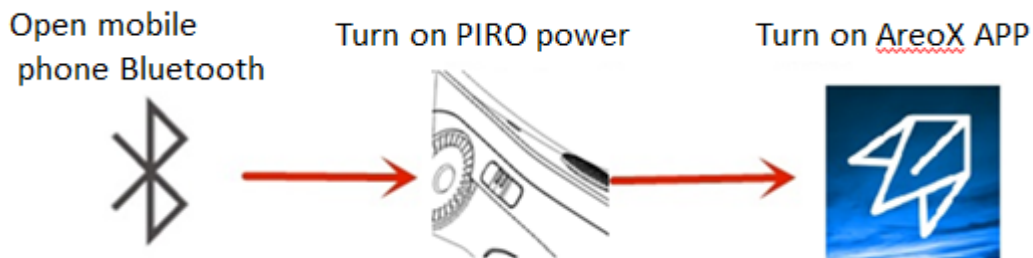
4.3: APP interface

When the phone APP connects with PIRO MINI Bluetooth, the shooting interface appears. At this time, you can read product power and current main mode of operation on the interface. Through the APP, you can select modes, take pictures and camera shooting, switch front and rear facing cameras, alter camera settings, view the library and so on. APP interface and functions are as shown below.
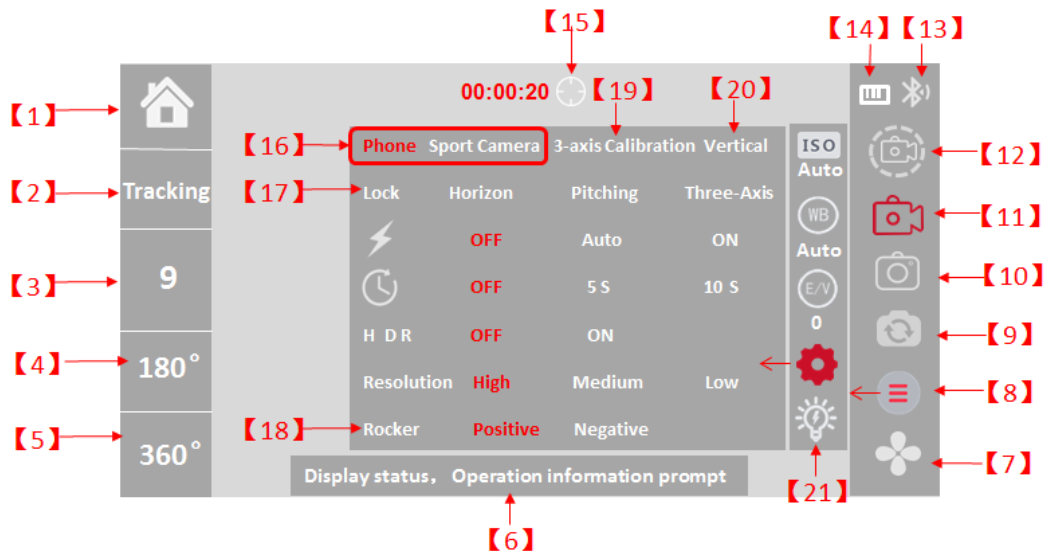
【1】Return to main interface. 【2】 Target follow mode. 【3】9 square capturing.

【4】 180 ° shooting mode. 【5】 360 ° surround mode.

【6】Information prompt area, different information will be displayed according to running state .

【7】 Local picture library. Click to enter the local picture to view, edit local pictures, add filters, share and delete online QQ, WeChat, micro-blog, Facebook and other operations.

【8】 APP settings. Click to expand and enter the second menu. You can set ISO sensitivity, WB white balance, E / V exposure, enter the third menu, etc.

【9】 Front and rear facing cameras switch.【10】 Photograph key. 【11】 Camera shooting key.

【12】Delay photography.

【13】Bluetooth connection state displaying.

【14】PTZ power displaying.

【15】Rocker Lens Zoom: In the camera shooting state, click this icon, the icon will turn red, then use the PTZ's rocker key to push up and down, you can adjust the focal length of the shooting interface. When this icon is in the white state, push the rocker key up and down, via it to adjust the lens angle, and it does not change the focal length of the shooting interface.

【16】Support device selection: users can choose to support mobile phone device or sports camera device. PTZ is adjusted to the corresponding device support mode.

【17】Mode selection: users can choose the following three operating modes:horizontal lock, tilt lock, three-axis lock .

【18】Rocker adjustment: users can choose positive and negative. and adjust the direction of different habits of the corresponding rocker capture, respectively.

【19】Three-axis calibration: users click it, guide screen of three-axis calibration occurs. According to the tips, you can carry out the three-axis calibration.

【20】Horizontal vertical switch: When users hand the PTZ horizontally with the flashlight, click this key, the PTZ will automatically switch to vertical mode. As long as hand way changes, the PTZ will automatically return to the horizontal mode.
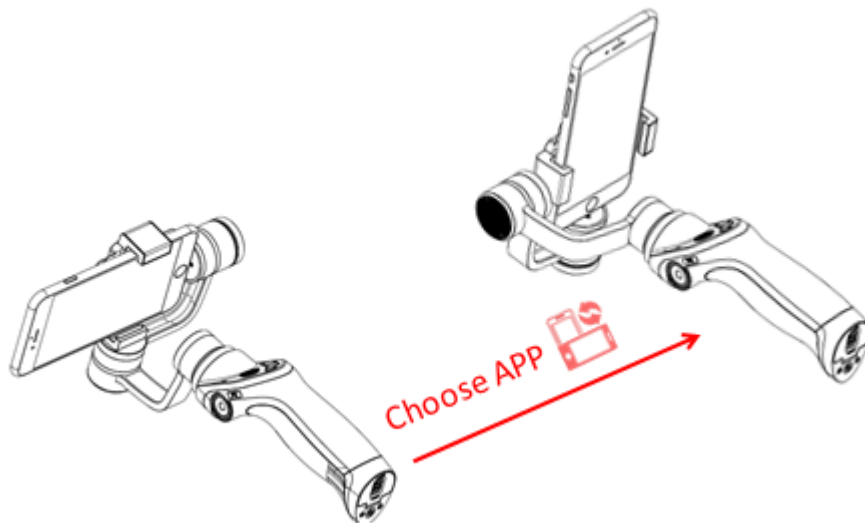
【21】Fill light button: the user can open and close the fill light behand the PIRO through the key, you need to upgrade the firmware version to the latest version.

Note: The above APP interface is the release version of the manual, if the user finds that the interface is not the same, please subject to the APP interface of the latest version. If some basic settings in the APP are not explained, users can experience by themselves.

5、Charging Instructions

    5.1：ChargeFor PIRO MINI.
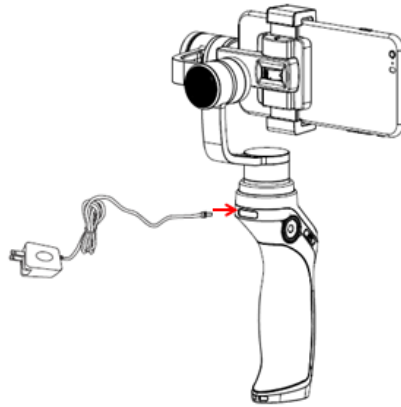
Charging steps are as follows:There is a power charging connector on the back of PIRO MINI. When charging the PIRO MINI, please use a charger professionally equipped for PIRO MINI.

1、 When charging, the power indicator on the PIRO MINI handle indicates a red light, indicating that the PIRO MINI is charging.

2、 If the power indicator converts to green, indicating that the PIRO MINI is fully charged.

3、 Turn on the PIRO MINI power supply, power indicator indicates green, indicating that the battery power of PIRO MINI is normal. If it indicates red light flashing, indicating that the power is less than 10%, please connect to the charger to continue charging.

6、Software and Firmware Upgrades

Software and firmware of PIRO MINI can be upgraded with "Areox Play" APP.

Please check the PIRO MINI power before upgrading to ensure that the battery power is over 50%, and keep the product and APP are stably connected each other in Bluetooth. When upgrading, you shall download an upgrade package on the internet with mobile phone, please ensure smooth network of mobile phone. It is recommended to download and upgrade in the WI-FI networking environment, you shall not exit the "Areox Play" APP during the upgrade process, and pay attention to APP tips.

6.1: Upgrade method

Step 1: In the case that ensure the connection between APP and PTZ Bluetooth, click "mine" in the APP main interface click (then click "About Areox").

Step 2: The following information appears on the APP interface: "Version Detection", "About AreoX", "Master Firmware Version", "Driver Firmware Version", "PTZ Firmware Upgrade":

Step 3:APP software upgrade: click on the interface "version detection" in Step 2, if the current APP is the latest version, then the pop-up prompt "is the latest version", if not, you shall begin to download the latest version of the software APP. After download, you shall just install it. After the upgrade of the software, just restart the software.

PTZ firmware upgrade: select the interface "PTZ firmware upgrade" in Step 2, if the PTZ firmware is the latest version, then pop up prompt "is the latest version", if not , pop up prompt dialog box of version update. Follow the prompts, click it to download and install the updates, after the upgrade, pop up the prompt "PTZ firmware has been upgraded". After the PTZ firmware has been successfully upgraded, it can be used when the PTZ is re-powered on and started up.

Note: The firmware upgrade process takes about 10 minutes, please do not any operation during the upgrade process! Please ensure that the phone network is smooth, and the connection between phone and PTZ Bluetooth is normal. If upgrade fails, please repeat the above steps.

7、Maintenance and Use Precautions

1. PIRO MINI is a precise equipment, in the course of use, please avoid sand, dust and water. Do not use any corrosive liquids to clean the PIRO MINI.
2. You may not turn on the power supply of PIRO MINI in case of no load. Please ensure that the PIRO MINI shall be powered after installed in a mobile phone or a camera and other devices. Otherwise, it is easy to cause that the PIRO MINI enters the protection state or even the parts are damaged in case of no-load power-on.
3. Do not immerse PIRO MINI in water and store PIRO MINI in a cool and dry place when it has been not used for a long time.
4. Do not store or use PIRO MINI in the vicinity of heat sources or in extremely hot environments, such as fire, in a car with high temperature, etc.
5. When charging, you shall use dedicated charger to charge the PIRO MINI, do not charge in the absence of care.
6. Do not use PIRO MINI in the strong magnetic or strong electrostatic fields, otherwise electronic protection device may be damaged and causes dangerous accidents.
7. When in use, leakage or overcharge may cause explosion or fire of PIRO MINI built-in battery.
8. This PIRO MINI is equipped with Bluetooth module, please do not use it in a radio control environment.
9. This PIRO MINI is equipped with lithium battery, please do not use the equipment in an extremely low temperature environment. Because extremely low temperature may cause the decrease of battery performance, and further cause the equipment cannot be used temporarily.
10. Do not throw or hit PIRO MINI, rudely treatment to PIRO MINI will damage PIRO MINI.

8、Technical parameters

PIRO MINI Product Parameters		
Product name	Handheld Gimbal PIRO MINI	
Working mode	Key selection	1. Horizontal locking (default); 2. Three-axis locking; 3. Open and adjust fill light
	APP selection	1. Target tracking; 2.180°shooting mode; 3.360°surround mode; 4. 9 square capturing
Stably shooting angle	Horizontal angle	-180°～ +180°
	Pitch angle	-160° ～ +160°

	Roll angle	-55°～ +55°
Angular jitter		±0．03°
Product size		340×126×50 mm
Product weight		<450g (without mobile phone)
Battery capacity		980mAh
Charging specifications		5V, 1A
Battery		8H
Bluetooth module		Bluetooth 4.0
External interface		Micro USB charging connector (top of handle)
Support hardware		Support 4.0 "-6.3" intelligent mobile phone
Fill light		Support front and rear fill light
Indicator		1, Power tri-color indicator (red, green, yellow); 2, mode tri-colored indicator (red, green, blue)
Support Accessories		Extension rod, fixed base, tripod leg, etc.
Charging Ambient temperature		5°C ～ +50°C
Working environment temperature		0°C ～ +50°C
Product certification		FCC-ID/CE/

9、 **Packing list**

   PIRO MINI, intelligent battery, charger, outdoor portable bag, manual, warranty card, Certificate, extension bar (optional), tripod leg base (optional), packing box.

FCC Statement

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

(1) This device may not cause harmful interference.

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

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

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 protectionagainst harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed andused 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 thisequipment does cause harmful interference to radio or television reception, which can bedetermined by turning the equipment off and on, the user is encouraged to try to correct theinterference 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.

PIRO MINI Warranty Card

Dear customers, hello! Thank you for purchasing Mars Exploration PIRO MINI, this product is produced under strict quality control and inspection. This warranty card refers that when a fault of the product occurs, provide customers with help and warranty services in accordance with the provisions of the warranty card.

Warranty Description

1, Since the purchase date, only when the fault occurs in case of normal use, can you get a one-year warranty service. Man-made sabotage, such as man-made disassembly of parts, man-made damage, consumers do not use the product follow the manual instructions, improper use and natural damage (for example, damage caused by fire, earthquakes, floods and others) does not belong to this warranty coverage.

2, Replacement of consumables (such as batteries, etc.) and accessories do not belong to the warranty coverage of this warranty card.

3, If the fault of product occurs over the warranty period, the company still has accessories, we will provide warranty service, as appropriate, charge a certain part costs and handling fees.

4, Once loss,we will no longer re-issue warranty card for you, please be sure to keep it safe.

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Product name	
Purchase date	
Product S N	
Customer information:	
Customer name	
Customer address	
Customer phone	
Dealer information:	
Dealer name	
Dealer address	
Dealer phone	