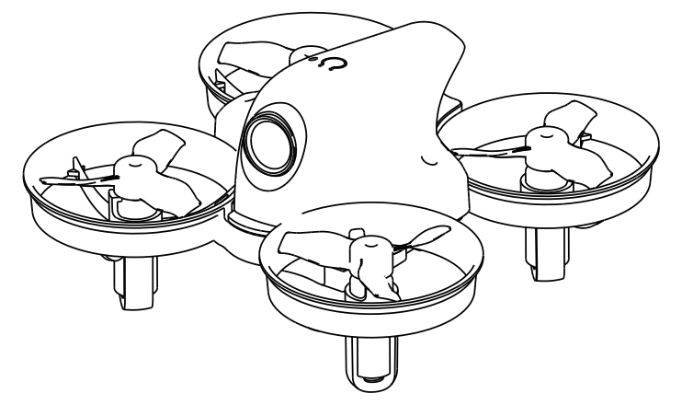
封面

APEX

VR70 V4.0



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User Manual

Important Statement

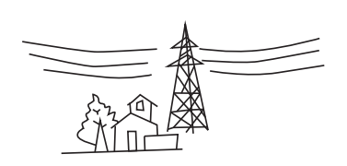
1.This product is suitable for teenagers and adults aged 14 and above. This remote-controlled quadcopter has certain difficulties in the initial learning stage and needs to fly under the guidance of personnel with operational experience.
2.This product is designed by integrating high-tech from multiple aspects such as electronics and mechanics. For those with insufficient operation experience, it is essential to stay away from people during flight. Improper operation may cause serious personal injury or property damage, for which we assume no responsibility.
3.Once the product is sold, we will not be held responsible for any safety incidents such as accidents that occur during operation or use.
4.In case of any problems related to use, operation or maintenance, you can contact the local dealer for technical support or after-sales service.

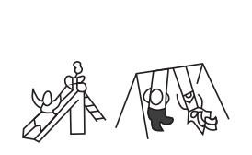
Note : 1. Please make sure to check the surrounding environment before flying.
2. Do not let the aircraft fly out of sight when it is in flight.
3. Children are not allowed to fly alone. Please fly with an adult.
4. Please confirm that there are no other products using the same frequency band operating flights in the same area.

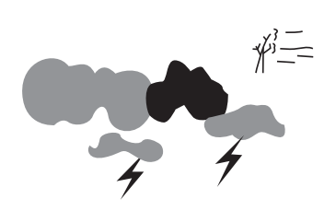
⚠ Warning

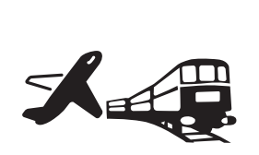
*The charger, wires, plugs, casing and other components should be inspected regularly. If any damage is found, use should be stopped immediately until they are repaired properly.
*Only the original factory-configured charging case can be used and switched to the appropriate voltage. And switch to the appropriate gear according to the battery voltage.
*Please clean this product with a clean and soft cloth. Before cleaning, the aircraft should be disconnected from the charger.
*When charging rechargeable batteries, adult supervision is required. Non-rechargeable batteries cannot be recharged.
*Do not short-circuit, disassemble, drop the battery from a height or throw it into fire.
*If the product is not operated for a long time, please remove the battery.
*Do not severely strike or drop the aircraft and the remote control.
*This package and instruction manual contain important information about the product. Please keep them.

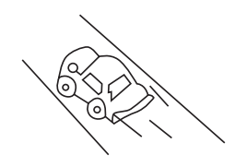
Do not allow the aircraft to fly in the following places

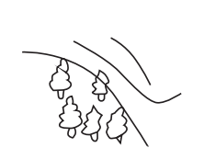

Under the signal tower and high-voltage power poles

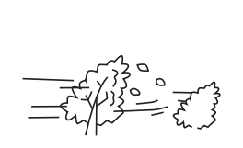

Amusement parks with excessive foot traffic


The wilderness with rain, lightning and thunder

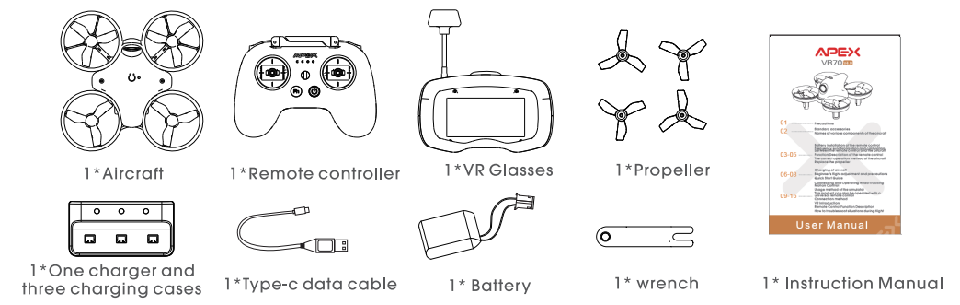

Near the airport and motorized rail vehicles


Highways and nearby places

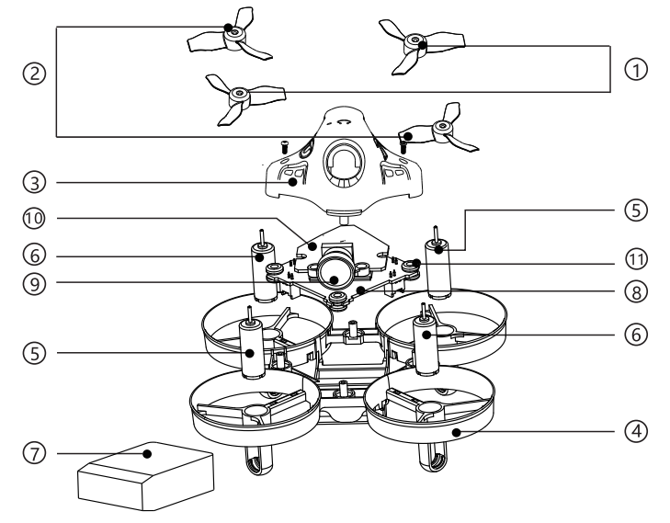

Near the woods/rivers


An environment with strong air flow

Standard accessories

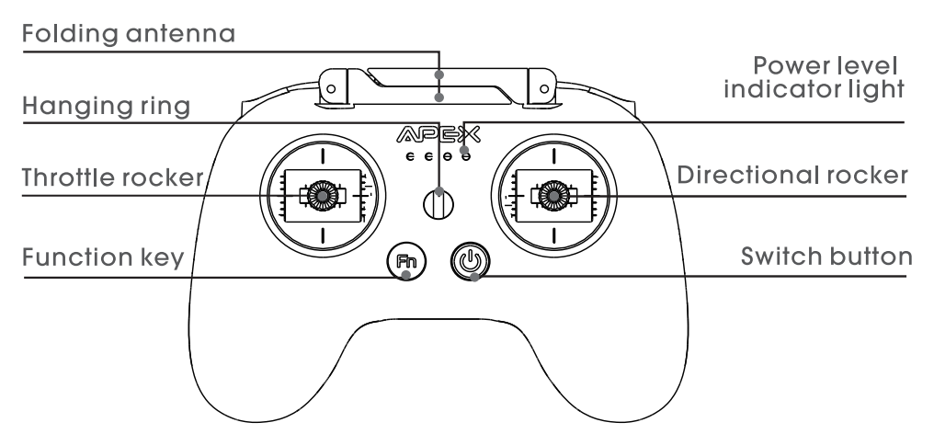

1*Aircraft
1*Remote controller
1*VR Glasses
1*Propeller
1*One charger and three charging cases
1*Type-c data cable
1* Battery
1* wrench
1* Instruction Manual

Names of Drone Components

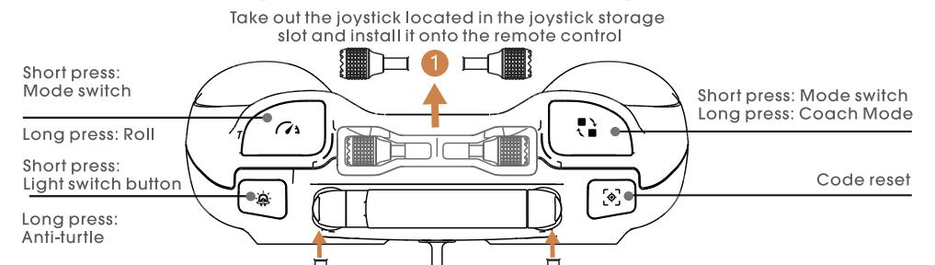


No	Name	Quantity
1	Reverse propeller	2
2	Forward-rotating propeller	2
3	Upper shell	1
4	Bottom shell	1
5	CCW motor	2
6	CW motor	2
7	Lithium battery	1
8	Receiving board	1
9	Camera	1
10	Cover plate	1
11	Damper	4

Remote Control Function Description



Folding antenna
Hanging ring
Throttle rocker
Function key
Power level indicator light
Directional rocker
Switch button
Take out the joystick located in the joystick storage slot and install it onto the remote control



Remote Controller and Aircraft Binding & Calibration

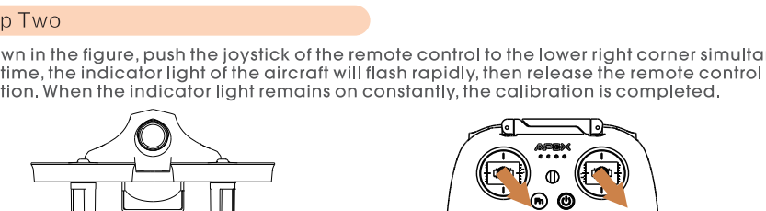
Step One

First, turn on the power switch of the remote controller. Then connect the aircraft to the battery. Position the aircraft on a flat surface with its tail facing the operator. The remote controller will emit a "beep" sound, and the aircraft's indicator light will stay solid, indicating that the binding has been successfully completed.
Re-matching: If the code cannot be matched, shake the aircraft. Wait for the seven-color light to flash in a loop, then long press the code reset button. The remote control will re-match the aircraft.

Important note: Connect the aircraft to the power supply. Since the gyroscope inside the aircraft needs to be leveled after being opened, it is necessary to ensure that the ground where it is placed is a static horizontal plane.

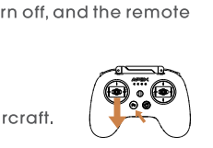
Step Two

As shown in the figure, push the joystick of the remote control to the lower right corner simultaneously. At this time, the indicator light of the aircraft will flash rapidly, then release the remote control operation. When the indicator light remains on constantly, the calibration is completed.



Function Description of the remote control

I. Power on/Off
①To power on, press and hold the remote controller's power button until it enters working mode.
②To power off, press and hold the power button until all the power indicator lights turn off, and the remote controller enters shutdown mode.
2. Unlock, lock
In Beginner Mode, short-press the "Fn" function button to activate motor idle speed.
Press the "Fn" button again to stop the motors.
While flying, short-pressing the "Fn" button will initiate a slow descent and lock the aircraft.



Make sure the throttle joystick is in zero position before unlocking or locking.

Lower the throttle to the minimum position, then press the unlock button to unlock.

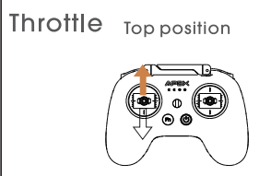
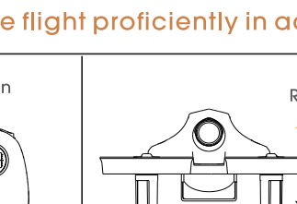
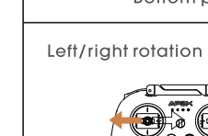
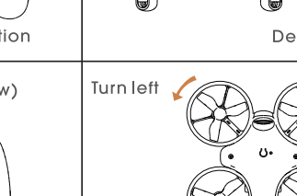
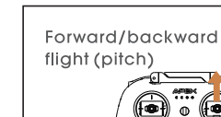
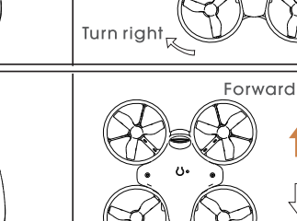
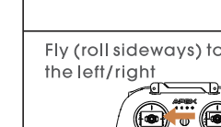
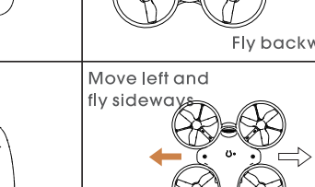
3. Throttle control
After unlocking, push the throttle stick above the center position to make the aircraft ascend.
Pull the throttle stick below the center position to make the aircraft descend.
When the throttle stick is at the center position, the aircraft will maintain its current altitude (in Altitude Hold Mode)
4. Rebinding
Long press and hold the code matching key to exit the channel that matches the aircraft. When the aircraft is not coded, after powering on, shake it until the seven-color light flashes, then turn on the remote control and long press the code matching key to re-code.
5.S teering (yaw): After the aircraft takes off, the throttle joystick moves left/right, causing the aircraft to turn left/right.
6. Forward and backward (pitch): After the aircraft takes off, the direction joystick swings forward/backward, and the aircraft flies forward/backward.
7. Left and right (roll sideways): After the aircraft takes off, the direction joystick is shaken left/right, and the aircraft flies left/right.
8. Fine-tuning function (Fn+ Direction joystick combination key)
After the aircraft takes off, if it drifts in one direction without joystick input, use the FN function button in combination with the direction joystick to correct the aircraft's drift and achieve a stable hover. (Hold down the FN button while using the direction joystick for fine adjustments.)
9. Seven-color light conversion
Press the color light button briefly: The aircraft's color lights will cycle and change colors in the order of red, orange, yellow, green, cyan, blue and purple.
10 . Short press to switch speed/long press to roll
Press the button briefly to adjust the speed. There are a total of 3 Settings. The first setting is when the buzzer sounds, which is the minimum speed. Two sounds indicate the second gear. Three sounds indicate the third gear and the maximum speed. Then press to switch to 1 gear in a loop. When the throttle is not at 0 and the button is pressed for a long time, the rollover mode will be entered. The buzzer will sound for a long time. When the direction joystick is turned, the aircraft will roll 360 degrees in the corresponding direction. (One-click rolling is only available in the fixed height mode.)
11.Short press to switch to long press to enter the coach mode
Mode switching: Press briefly to switch between 3 flight modes: There are a total of 3 gears. When the buzzer sounds once, it is the self-stabilizing high mode. Two sounds indicate semi-self-stabilizing mode, and three sounds indicate manual mode.
Self-Stabilizing Altitude Mode:In Altitude Hold Mode, when flying in Speed Level 1 or 2, the drone activates the Optical Flow Positioning function for stable hovering.In Speed Level 3, only Altitude Hold is enabled—Optical Flow Positioning is not active.
Semi-Stabilized Mode:In this mode, the aircraft does not support altitude hold or automatic hovering. The pilot must manually control the throttle and direction sticks to maintain altitude and position.
Manual Mode:In Manual Mode, there is no altitude hold function. The user controls the aircraft using the joysticks. When flying forward, backward, left, or right, the aircraft will maintain its attitude after stick input and continue flying in that direction automatically.Throttle (ascend/descend) and yaw (rotation) controls remain unchanged.
12.Calibration joystick
In an unbound state after powering on, center both joysticks completely. Then press and hold the FN button and the Mode button simultaneously. The indicator light on the remote controller will flash rapidly. Once the flashing stops, release the buttons.Next, move both joysticks in smooth circular motions from the inside to the outside, ensuring that all four corners are fully reached.When the remote controller vibrates and emits a "beep" sound, the calibration is successful.After refreshing the firmware, calibration is mandatory. Failure to do so may result in issues such as inability to unlock or take off.
13. Anti-turtle
When the drone overturns, press and hold the LED light key without releasing it to enter the anti-turtle mode, and the drone indicator light will flash. At this point, push the front, back, left and right joysticks until the drone turns back to the front, and then release the LED light keys.

14.APEX TX protocol with built-in ExpressLRS 2.4G support
When powered off, press and hold the "Fn" function button and the power button simultaneously to switch between APEX TX and ELRS 2.4G protocols.
Four fast beeps indicate the APEX TX protocol; four slow beeps indicate the built-in high-frequency ELRS 2.4G protocol.
15.FPV simulator practice
Turn off the remote control. Connect the remote control to the PC computer with a Type-C data cable. There is no need to install a driver. After calibrating the PC computer simulator software, you can practice FPV simulator. (Supports mobile devices such as mobile phones and tablets. Please note that an OTG adapter is required.) The connection method using an audio cable and a dongle is also acceptable.
16.Coach Mode: Long press to switch modes. Two remote controls need to be connected via audio cables. The one with the aircraft code matching will automatically be confirmed as coach mode, and the other will be student mode.
17.Forced emergency stop: In the constant altitude mode, when Fn+ throttle joystick is pulled down, the aircraft will come to an emergency stop directly.
18.To switch channels in a linked manner: Press Fn+ Speed Switch key to enter the linked switching of video transmission channels. Each press will switch channels once.

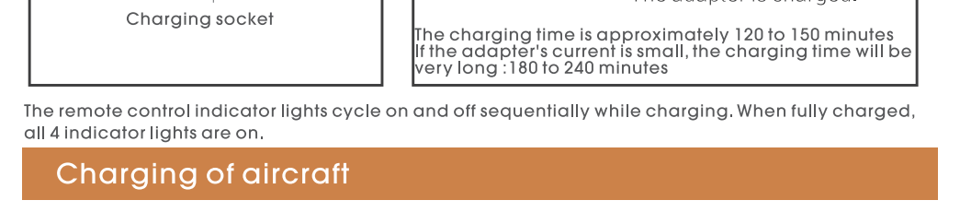
Note: When changing the battery of the aircraft, the remote control does not need to be restarted for code matching (long press the FN key + code matching key on the remote control).

The correct control method of the aircraft

Please simulate the flight proficiently in advance before the flight

Throttle		
Top position Bottom position 	Rise Decline 	When the throttle joystick is pushed upwards,The aircraft ascends. When the throttle joystick is pulled downward, The aircraft descends.
Left/right rotation (yaw) 	Turn left Turn right 	When the throttle joystick is pushed to the left,The aircraft rotates to the left. When the throttle joystick is pushed to the right,The aircraft rotates to the right.
Forward/backward flight (pitch) 	Forward flight Fly backward 	When the direction joystick is pushed upwards,The aircraft moves forward and flies. When the direction joystick is pulled downward, The aircraft flies backward.
Fly (roll sideways) to the left/right 	Move left and fly sideways Move right and fly sideways 	When the direction joystick is pushed to the left,The aircraft moves to the left and flies sideways. When the direction joystick is pushed to the right,The aircraft moves to the right and flies sideways.

Remote control Charging Instructions



Charging socket
Adapter (purchased separately)
It is recommended to use 5V1−2A
The adapter is charged.

The charging time is approximately 120 to 150 minutes
If the adapter's current is small, the charging time will be very long :180 to 240 minutes

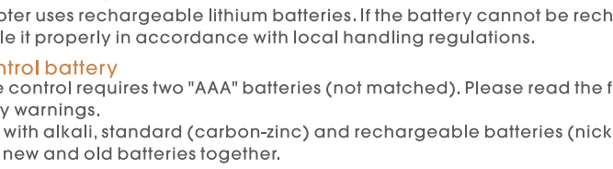
The remote control indicator lights cycle on and off sequentially while charging. When fully charged, all 4 indicator lights are on.

Charging of aircraft

1.Connect the USB charging cable to the charging case and the adapter. After turning on the power, remove the battery from the plane and plug it into the charging case.
2.The indicator light remains on constantly when the battery is charging. When the battery reaches saturation, the light will automatically turn off.

Charge with the dedicated charger we deliver

Note: During the flight, the remote control makes a "whoosh whoosh..." sound. When the sound is heard, it indicates that the battery voltage of the aircraft is insufficient. After landing, charge it.



Battery Warning

Rechargeable battery

This quadcopter uses rechargeable lithium batteries. If the battery cannot be recharged repeatedly, please handle it properly in accordance with local handling regulations.

Remote control battery

■The remote control requires two "AAA" batteries (not matched). Please read the following important battery safety warnings.
■Do not mix with alkali, standard (carbon-zinc) and rechargeable batteries (nickel-metal-hydride).
■Do not use new and old batteries together.
■Charging non-rechargeable batteries is prohibited.
■Rechargeable batteries should be removed from the remote control before charging (if removable).
■Rechargeable batteries can only be used under adult supervision.
■When the battery is exhausted, it should be disassembled immediately and must be properly recycled or disposed of in accordance with national or local government laws and regulations.
■Check that the supply terminal should not short-circuit.
■Do not throw the battery into the fire as it may cause leakage or explosion.

The battery should be installed according to the correct polarity (refer to the internal manual).

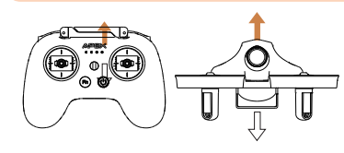
Beginner's flight adjustment and precautions

⚠ Note

- Please confirm whether the battery is installed properly and whether the propeller is stable.
- Confirm whether the battery power of the remote control and the aircraft is sufficient.
- Confirm again that the rotation direction of the propellers is in a one-to-one corresponding assembly position.
- When flying over long distances, please extend the antenna of the remote control.

Beginner's flight adjustment and precautions

1.Throttle control practice

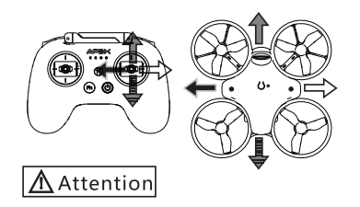


⚠ Note

- Confirm that there are no other people or obstacles in the flight area.
- For flight safety, you must first practice hovering, which is the basis of flight movements (hovering:the aircraft remains in the air and maintains a fixed position).
- When practicing, please stand at least 2 meters behind the aircraft.

The throttle control is in the up and down direction of the left hand. Slowly push the throttle joystick upwards, immediately release the joystick, and the aircraft will rise and remain at a fixed height. Pull the joystick down slowly and release it immediately. The aircraft will descend and remain at a fixed height. Practice repeatedly until you can control the aircraft to any height and then it can descend stably to the ground.

2.Practice of front-back and left-right control



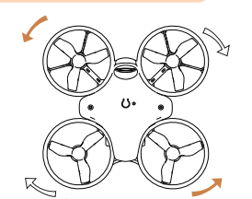
1.Practice front and back. The front and back are in the up and down direction of the right hand. First, keep the aircraft at a certain height, move forward slightly by one meter, and when the aircraft is stable, move back by one meter. Repeat the practice.
2.Left and right side flight practice. The left and right side flights are in the left and right directions of the right hand. The method is the same as above.

⚠ Attention

When the aircraft is in a remote area, please lower the throttle and land the aircraft, then walk 2 meters directly behind the aircraft by yourself and continue practicing. Or move back to the original position and continue practicing.

3.Rotation operation practice

Slowly raise the throttle lever to control the aircraft to a certain height
Slowly push the throttle lever to the left/right to make the aircraft rotate counterclockwise/clockwise slowly..



4.Precision practice

When you feel familiar with the movements in steps 1 to 3, draw a circle on the ground and practice flying within the range of this circle to increase the accuracy of your control.
When you are more accustomed to the operation actions, you can draw smaller circles.

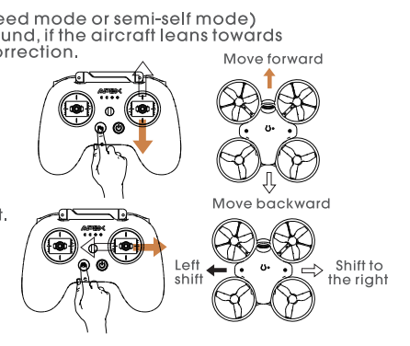
5.Change the direction of the aircraft

When you feel familiar with the movements in steps 1-4, stand on the side facing the aircraft and continue practicing steps 1-4. After that, stand in front of the aircraft and repeat the steps for practice.

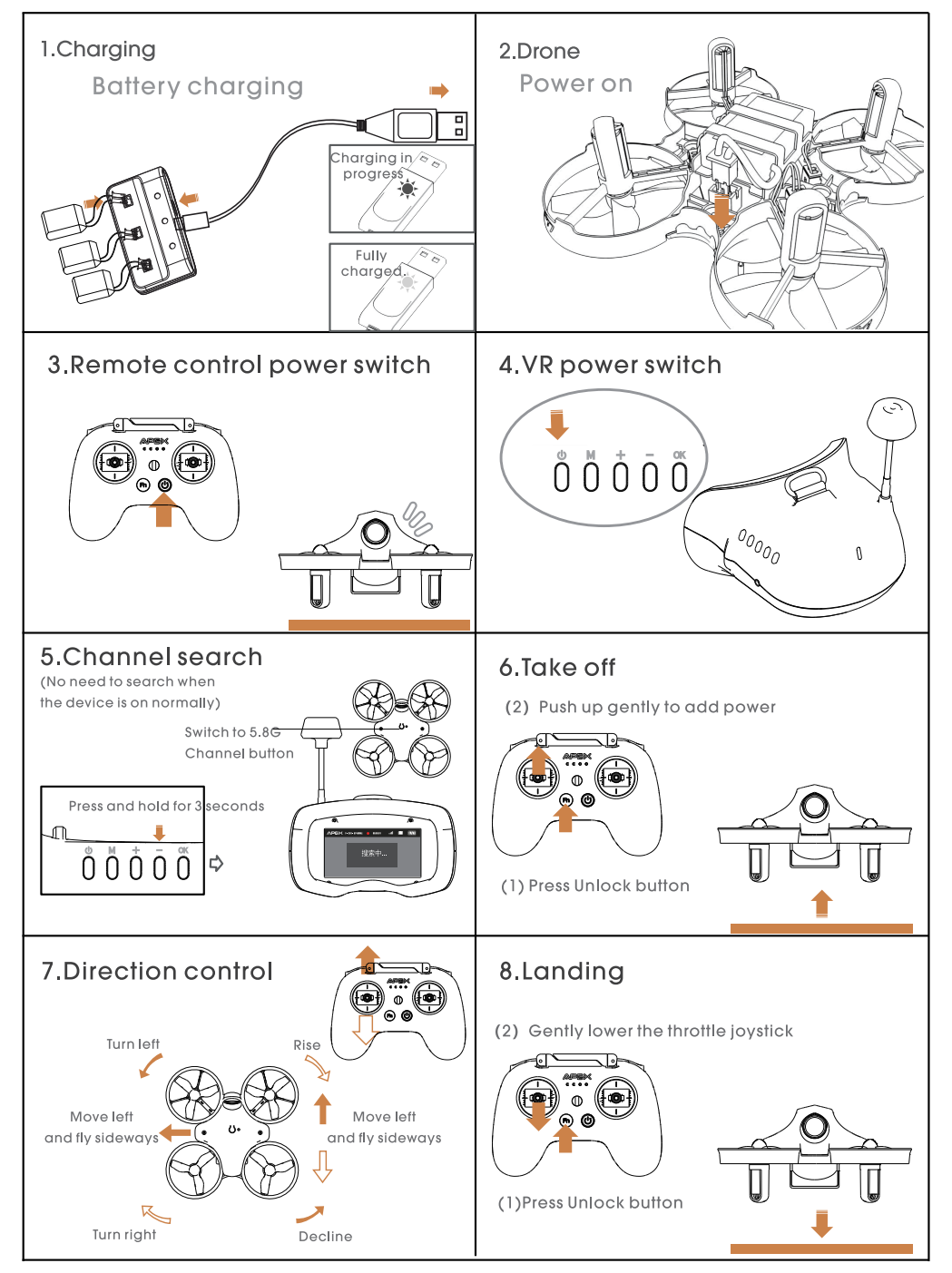
6.Fine-tuning of flight actions

In the non-fixed point mode (self-stabilizing high mode, three-speed mode or semi-self mode)
Slowly raise the throttle lever. When the aircraft just leaves the ground, if the aircraft leans towards moving in all directions, the fine-tuning action can be used for correction.

1.After the aircraft takes off, it gradually offsets in the forward/backward direction. At this time, you can hold down the Fn key (as shown in the figure) and then adjust the direction joystick. When moving forward, adjust the direction joystick downward; when moving backward, adjust the direction joystick upward. (Without controlling the direction joystick, a slight deviation is a normal situation.)
2.After the aircraft takes off, it slowly moves sideways to the left/right. At this time, you can hold down the Fn key (as shown in the figure) and then adjust the direction joystick. When offsetting to the right, adjust the direction joystick to the left. When shifting to the left, adjust the direction joystick to the right.



Quick Start Guide



1.Charging
Battery charging
Charging in progress
Fully charged
2.Drone
Power on
3.Remote control power switch
4.VR power switch
5.Channel search
(No need to search when the device is on normally)
Switch to 5.8G Channel button
Press and hold for 3 seconds
6.Take off
(2) Push up gently to add power
(1) Press Unlock button
7.Direction control
Turn left
Rise
Move left and fly sideways
Move left and fly sideways
Turn right
Decline
8.Landing
(2) Gently lower the throttle joystick
(1)Press Unlock button

Head-tracking body-sensing connection Method 4.0

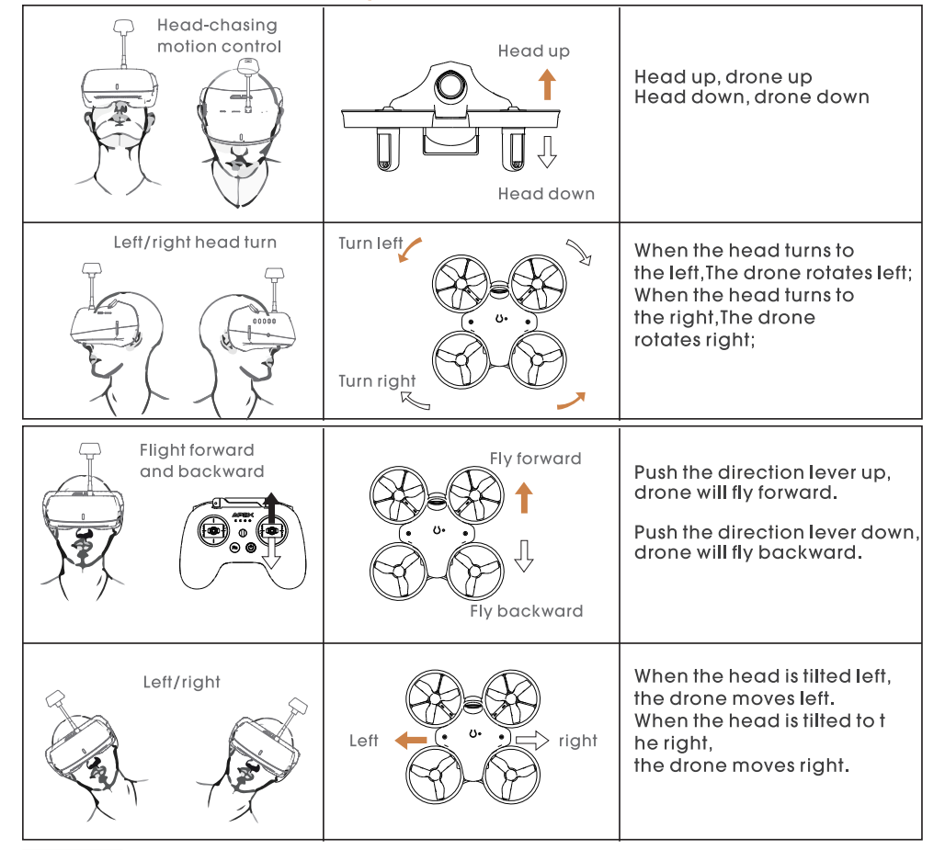
1.First, turn on the VR glasses and place them on a horizontal surface, then turn on the remote control.
2.Press and hold the Fn+ mode switch key to enter the head-chasing mode. Briefly press the reset code alignment key to calibrate the VR glasses. During calibration, the indicator light on the remote control will flash quickly. After calibration is completed, the remote control will make a long beep. If the VR glasses keep flashing rapidly, it indicates that the calibration has not passed. Press and hold the Fn+ mode switch key again to exit the head chase mode.

⚠Note

1.Head-chasing control: VR glasses need stable control and should be kept as level as possible.
2.When operating the forward and backward tilting or left and right rotation, try to control it slowly and evenly to avoid overturning due to excessive movement of the drone. After becoming proficient in the operation, gradually increase the speed and amplitude.

Head-chasing body-sensing Control Method 4.0

Please simulate the flight proficiently in advance before the flight



Head up, drone up
Head down, drone down

When the head turns to the left,The drone rotates left; When the head turns to the right,The drone rotates right;

Push the direction lever up, drone will fly forward.
Push the direction lever down, drone will fly backward.

When the head is tilted left, the drone moves left.
When the head is tilted to t he right,
the drone moves right.

⚠Notice Long time use of head chasing function may lead to dizziness, please gradually adapt, pay attention to rest!

Connection method

Drones – Connected to other glasses, conditions and methods:
"This device operates on 5.8G and can be directly used with 5.8G VR goggles after frequency pairing. As long as the frequency matches (e.g., 5880, 5860, etc.), it can be used.
Install the antenna properly: If you want to record videos, please install the SD card in advance. Currently, only SD cards with a capacity of 32G or less are supported.

The remote control has the function of connecting to a computer to simulate operations. The connection method after downloading the simulator game is:

1.The remote control doesn't power on.
2.Plug the Type-C cable into the controller and connect the other end to your computer's USB port. When the controller light stays on, the connection is successful. Open the simulator software, calibrate the sticks, and start your FPV training.

⚠ Note Apple systems are not supported. Computers with Windows 7 or lower systems are not supported. The emulator and practice tutorials can be obtained for free by contacting customer service

The remote control has the function of connecting Android mobile phones and Android tablets to simulate operations. The connection method after downloading the simulator game is:

1.The remote control doesn't power on.
2.Prepare an otg adapter and connect the Type-C data cable to the adapter.
3.Connect the Type-C data cable port to the remote control, and connect the otg adapter port to the Android phone/Android tablet. A constant light on the remote control indicates a successful connection. After opening the simulator software to calibrate the joystick, you can start practicing the FPV simulator.

⚠Note

1.The Apple system does not support it. Some Huawei users may not support it
2.Double-ended Type-C cables are not supported
3.The package does not include an OTG adapter. You can contact customer service to participate in the "Comment and Get Gifts" event to claim it
4.Simulators and practice tutorials can be obtained for free by contacting customer service
5.If the connection fails, please check the following situations: whether the remote control is turned off, whether the adapter is connected to the mobile phone, and whether it is an Apple or Huawei user

Firmware upgrade

1.Software download (This APP is also used for parameter adjustment and upgrade on a beginner's machine):
Android mobile phone: https://www.pgyer.com/H6HQBKKn

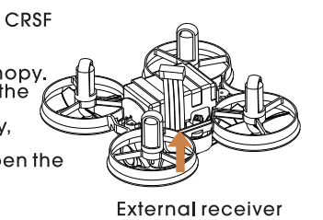
Android mobile phone

For iphones: Search for "Apex Flight" in the App store to download it
2. Connection Method:
Turn on the remote controller without binding it. Open the Apex-Flight app, tap the Bluetooth icon in the top right corner, and pull down to refresh the device list. The serial number of this remote controller will appear—tap the serial number to complete the connection.
3.Upgrade method: Click the Settings icon in the upper right corner, click Firmware Upgrade, and select the latest firmware upgrade based on the date
4.After the upgrade is successful, just calibrate the joystick

Note
1.The new remote control does not require an upgrade
2.JP = Japanese-style controller, TX = American-style controller.
3.During the upgrade process, do not operate the remote control or the mobile phone. Make sure the device is fully charged. If the power is interrupted, the upgrade will fail and the remote control will turn into a brick
4.If the upgrade is incorrect, please re-upgrade the firmware. If it becomes brick, it needs to be returned to the factory for repair
5.Please calibrate correctly; otherwise, situations such as inability to unlock or take off may occur

This product can also be operated with a universal remote control

How to connect other brand remotes
1.Purchase a universal 2.4G remote control corresponding to the CRSF protocol.
2.Remove the 4-pin ribbon cable that comes with the receiver.
3.First, unscrew the three screws on the canopy and open the canopy.
4.Connect the connection lines in sequence to the interfaces on the PCB board inside the aircraft.
5.Route the connection cables neatly from the rear of the canopy, install the canopy properly, and tighten the screws.
6.Turn on the remote control, install the battery on the aircraft, open the remote control function page, and connect to the receiver (successfully connect the 2.4G universal remote control).

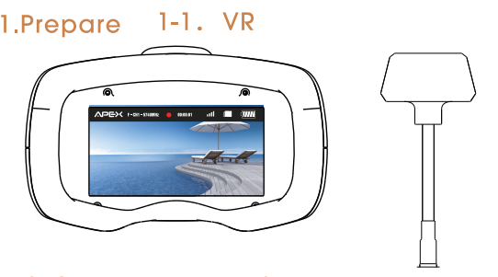

External receiver Connecting wire

7.This enables the aircraft to be controlled using a universal remote controller.

Pay special attention
A.When purchasing a universal remote control, a receiver is required.
B.The 4-pin ribbon cables of the receiver need to be inserted into this aircraft in sequence.
C.The universal remote control purchased is 2.4G and comes with the CRSF protocol.

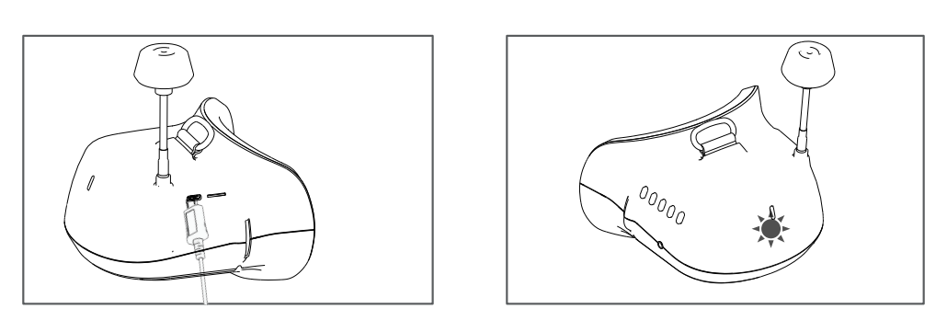
Introduction to VR

1.Prepare 1-1. VR



※Without SD card

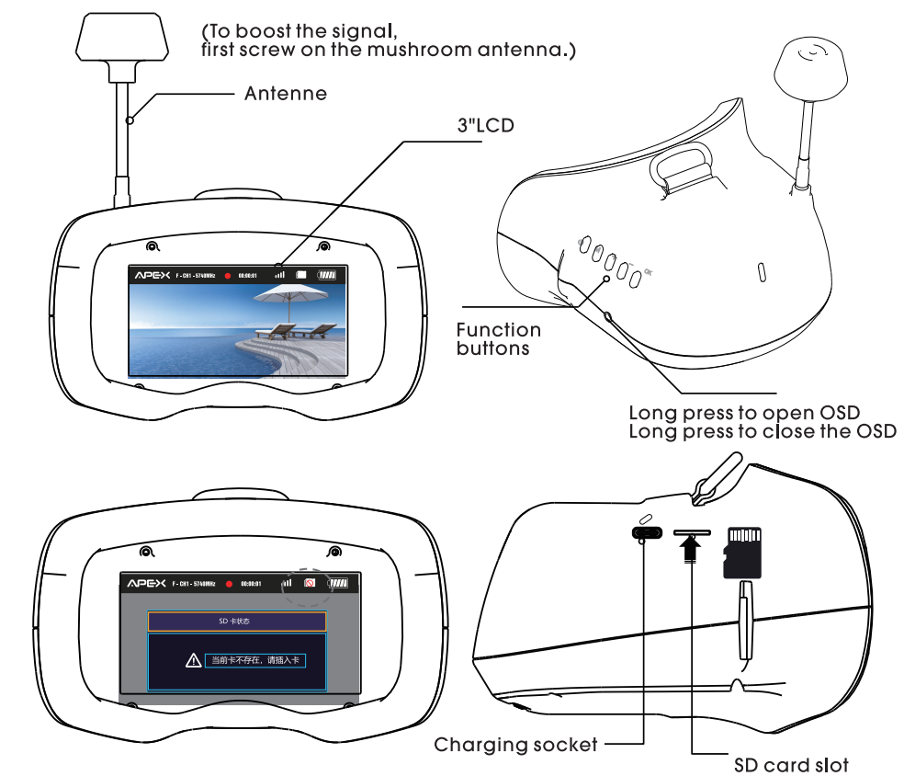
1-2. Charging status & Working status


Charging red ligh
Full of greent
Blue light on startup

1-3. Specifications

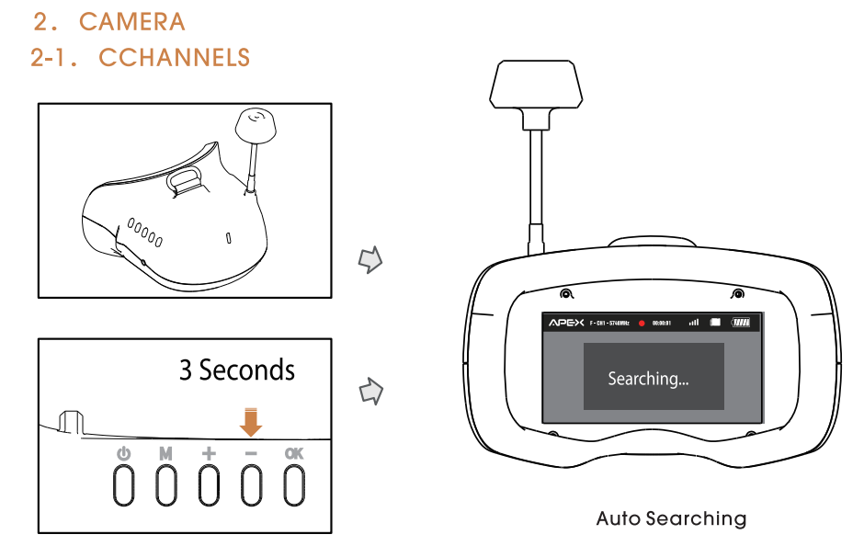
Screen Size	3 inch
Screen Type	TFT LCD
Resolution	360X640 pixels
Brightness	320cd/m2
Sensitivity	-90dBm
Channel	48 channels
Dimension	135.6*134.8*63.5 （mm）

1-4. DISPLAY&BUTTONS

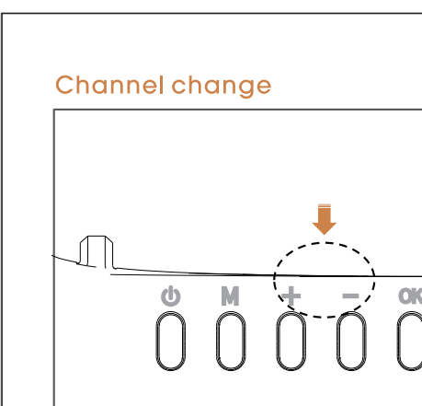


(To boost the signal, first screw on the mushroom antenna.)
Antenne
3"LCD
Function buttons
Long press to open OSD
Long press to close the OSD
Charging socket
SD card slot (Note the direction)

2. CAMERA
2-1. CCHANNELS



Channel change



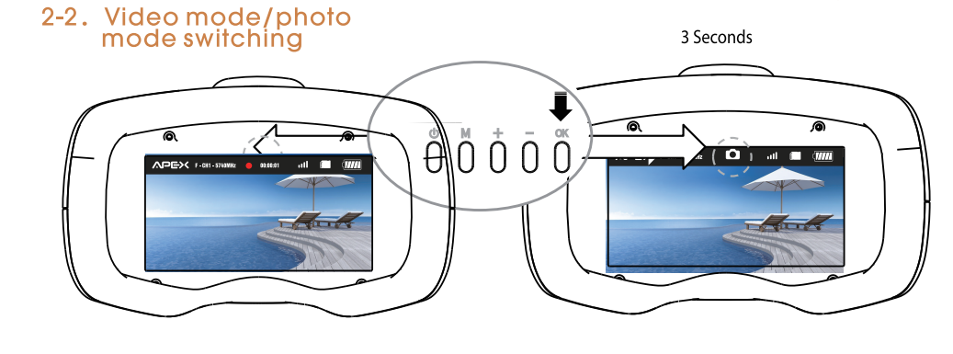
Channel List

CH	F	R	A	B	E	H
CH1	5740	5658	5865	5733	5705	5362
CH2	5760	5695	5845	5752	5685	5399
CH3	5780	5732	5825	5771	5665	5436
CH4	5800	5769	5805	5790	5645	5473
CH5	5820	5806	5785	5809	5885	5510
CH6	5840	5843	5765	5828	5905	5547
CH7	5860	5880	5745	5847	5925	5584
CH8	5880	5917	5725	5866	5945	5621
MHz	MHz	MHz	MHz	MHz	MHz	MHz

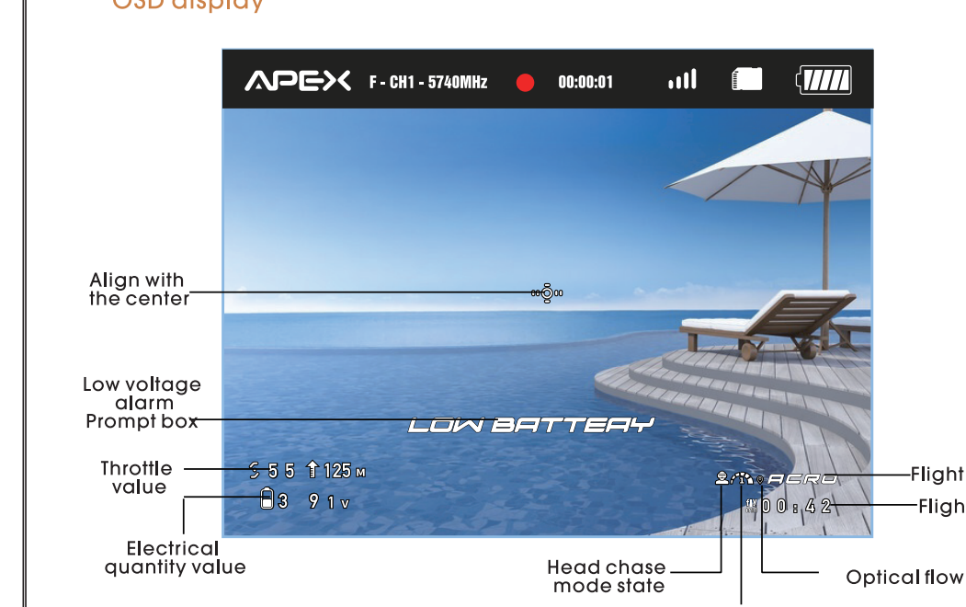
The aircraft supports the channels in the gray area

Note: The VR glasses support 48 channels, while the aircraft only supports gray

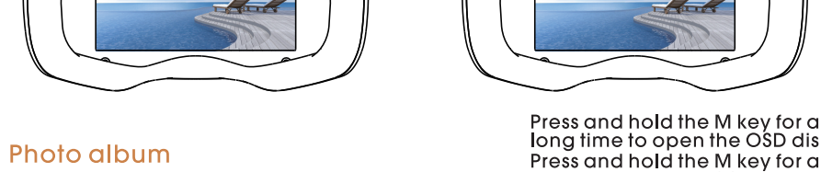
2-2. Video mode/photo mode switching



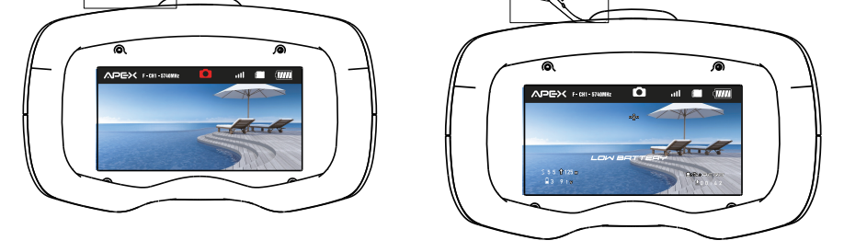
OSD display



2-3. VIDEO



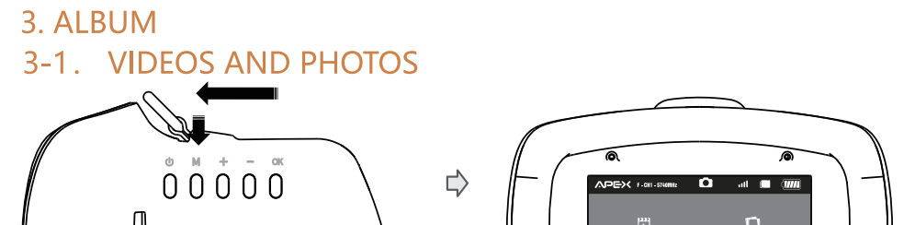
2-4. Photo album



Press and hold the M key for a long time to open the OSD display
Press and hold the M key for a long time to turn off the OSD display
OSD display/off

Press and hold the M key for 3 seconds to open the album: Briefly press + or - to select the video and photo, briefly press the OK key to confirm viewing, and briefly press the M key to move back.

3. ALBUM
3-1. VIDEOS AND PHOTOS

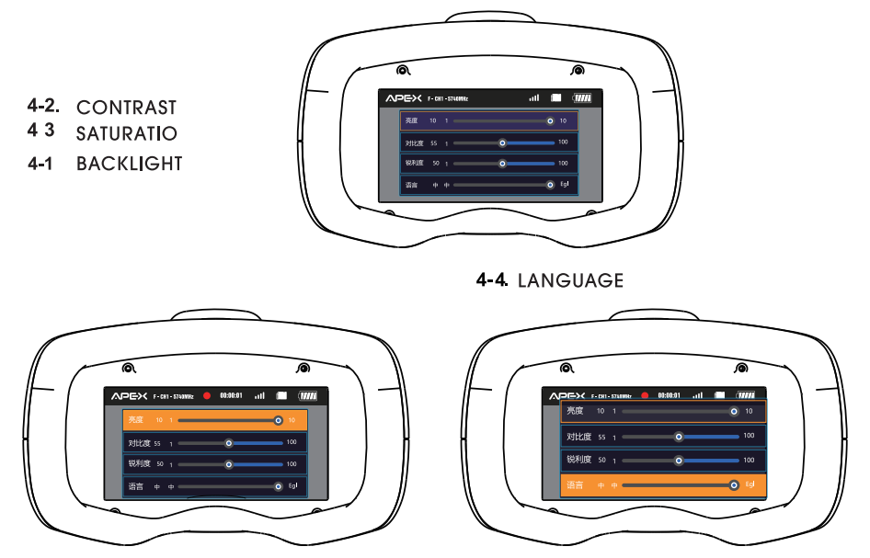


Videos and photos

PHOTOS
VIDEOS

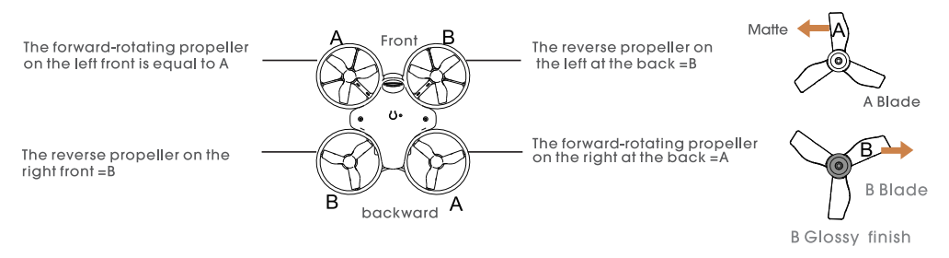
4. SETTINGS

Click M key: menu show/hide



Replace the propeller

In order to achieve the best flight performance, the propeller needs to be inspected or replaced with a new one after multiple flights. Especially after a collision occurs during high-speed flight, the propeller may be damaged.
1.This aircraft has four propellers.
2.When replacing the propeller, please ensure that the indicator letters on the propeller match properly (A represents a forward-rotating propeller,B represents a counter-rotating propeller, and the letters are on the front of the propeller).
3.Special attention should be paid to replacing the damaged propeller with a propeller that turns correctly. Never change the propeller with the wrong direction!



The forward-rotating propeller on the left front is equal to A
The reverse propeller on the right front =B
Front
A
B
backward
B
A
The reverse propeller on the left at the back =B
The forward-rotating propeller on the right at the back =A
Matte
A Blade
B Blade
B Glossy finish

How to troubleshoot situations during flight

	Troubles	Causes	Solutions
1	Turn on the drone ,LED blinks , while the drone has no responding to all commands	Pair between drone and controller failed	(please refer to the frequency alignment of remote controller and receiver in P3)
2	Turn on the drone ,the drone has no reaction to the commands	The battery died	Charge the drone
3	Blades keep moving after landing	Throttle lever is not at the zero position	Put the throttle lever to zero position
4	Blades keep moving ,while the drone can not take off	1.Blades may installed wrong 2.No enough power	1.Change the blades 2.Charge the drone
5	After trimming ,drone keeps spin,and the speed of blades is different	1.Blades may installed wrong 2.Blades get damaged 3.Calibration failed	1.Install the blades 2.Replace the blades 3.Refer to p3 for calibration
6	The drone can not take off after drop	1.Blades are getting lose 2.Blades get damaged	1.Tighten the blades 2.Replace the blades

FACEBOOK YOUTUBE

Email:intisarshakiyla50@gmail.com

PLEASE RECYCLE

Made in China

IM-VR70(4.0)-EN-01

封底

材质：128g双铜
Size:138*210mm