FPV 100

User Handbook

Specifications:

Main Rotor Dia. A : 195mm

Main Rotor Dia. B : 195mm

Overall Length: 225mm

All-up Weight: 85g (Battery included)

Battery: 3.7V 600mAh Li-Po

Software: WK-REMOTE

Receiver: RX2460-D

Gyro: Built-in

Motor: 2 x 1222F

Transmitter: DEVO-6/7/7E/8S/10/12S/F4/F7(optional)

Servo: WK-02-5

weight: 2.65g

speed: 0.12sec/60° (3.0~4.5V)

dimension: 16.5×6.8×15.7mm

Features:

1) Equipped DV05 module, support Iphone,Ipad series products.

2) Support Walkera Devo series Transmitters.

3) Equipped TX5805/5806 emitter With DEVO-F4/F7, you can have 5.8G FPV real time image monitor.

4) The RX firmware can Update Online (required UP02 upgrade cable and adapter).

5) Coaxial structure and palm-sized dimension are used to make FPV100 as an optimal model for indoor entertainment.

6) High performance 2 x 1222F motor, powered by 3.7V 600mAh Lipo, offers 8 to 9 minutes flight time, depending on the flight modes.

FPV 100

Walking in Era and Towing the Trend

PHOTO | WiFi WiFi Service Area | CAMERA | GRAVITY SENSOR | DEVO | WK-REMOTE | Available on the App Store

WiFi Version

Support Iphone and Devo Seris Radios
(MODEL with DV05 module)

DIY Video Version

Upgrade WK series radios with FPV function!

Support WK/Spectrum/Futaba/JR series Radios and
DIY Video with iPhone or iPad.
(Model With DV05 module and needed to complete RC Cube)

FPV advanced Version

Support the FPV radio DEVO F4/F7 and to enjoy the FPV videos
(exchange the DV05 module to TX5805/5806 module)

Contents

01 Forewords

Dear customer:

Thank you for purchasing a Walkera radio control aircraft product. In order to quickly and safely master the operation of the FPV100 RC helicopter, please read the user handbook carefully and then keep it in a safe place for future consultation and reference.

2.1 Important Statement

(1) This product is not a toy. It is a piece of complicated equipment which harmoniously integrates engineering materials, mechanics, electronics, aerodynamic and high frequency radio. Correct installation and adjustment are necessary to avoid accidents taking place. The owner must always operate in a safe manner. Improper operation may result in serious property damage, bodily injury or even death.

(2) We accept no liability for damage and consequent damage arising from the use of these products, as we have no control over the way they are maintained, used and operated.

(3) This product is suitable for experienced RC Helicopter pilots aged 14 years or more. All minors must be accompanied by a responsible adult when flying.

(4) The flight field should be legally approved by the local government. We accept no liability for any safety duties or fines arising from operation, usage or mis-control after the sale of the products .

(5) We consign our distributors to offer technical support and service after sale. Please contact the local distributors for problem resolution caused by usage, operation, maintenance, etc.

02 Safety matters needing attention

2.2 Safety matters needing attention

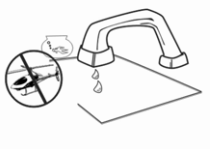
RC helicopter flight is a high risk hobby, whose flight should be kept far away from other people. Mis-assembled or broken main frame, defective electronic equipment, and/or problematic radio system will lead to unforeseen accidents such as bodily injury or property damage. The pilot MUST pay attention to the flight safety and UNDERSTAND his responsibility for accidents caused by his carelessness.

(1) Far away from obstacles and people

An RC helicopter in flight has risk of uncertain flight speed and direction which is potentially dangerous. When flying, please keep your RC helicopter far away from people, high buildings, high-tension lines, etc, and avoid operating in rain, storms, thunder and lightening.

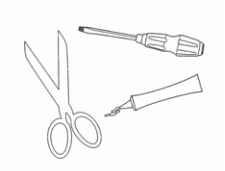
(2) Keep away from humidity

RC helicopter should be kept away from humidity and vapor because its complex,precise electronic components and mechanical parts may be damaged.



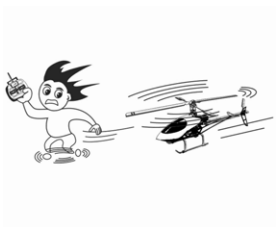
(3) Proper operation and maintenance

Please use Walkera original spare parts to upgrade, modify or maintain your helicopter in order to ensure its safety. Please operate your helicopter within the range of functions permitted. It is forbidden to use it outside of the safety laws or regulations.



(4) Avoid flying alone

At the beginning of learning about radio-controlled flight there are some difficulties to overcome. Please avoid flying alone. Invite experienced pilots to guide you (two of the most effective methods to practice are via a PC flight simulator and/or under the supervision of a skilled pilot).



02

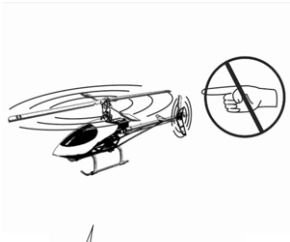
Safety matters needing attention

(5) Safe operation

Please fly your helicopter according to your physical status and flight skills. Fatigue, listlessness and mis-operation will increase the possibilities of accidental hazard.

(6) Keep away from high-speed rotating parts

Please keep the spinning blades of both main rotor and tail rotor away from the pilot, people and other objects.



(7) Protect from heat

An RC helicopter is made from metal, fiber, plastic and electronic components, etc. Please keep away from heat and sunshine in order to avoid distortion, even damage, caused by high temperatures.

2.3 Attention before flight

(1) Make sure that the battery power is saturated.

(2) Ensure the directions and actions which servos execute transmitter commands are correct and smooth, respectively. Using a broken servo will result in unforeseen dangers.

(3) Check there are no missing or loose screws and nuts, no unassembled or damaged parts. Carefully check the main blades have no defects, especially the position close to the main blade connector. Broken or unassembled parts will have an effect on the flight performance, and will cause unforeseen potential dangers.

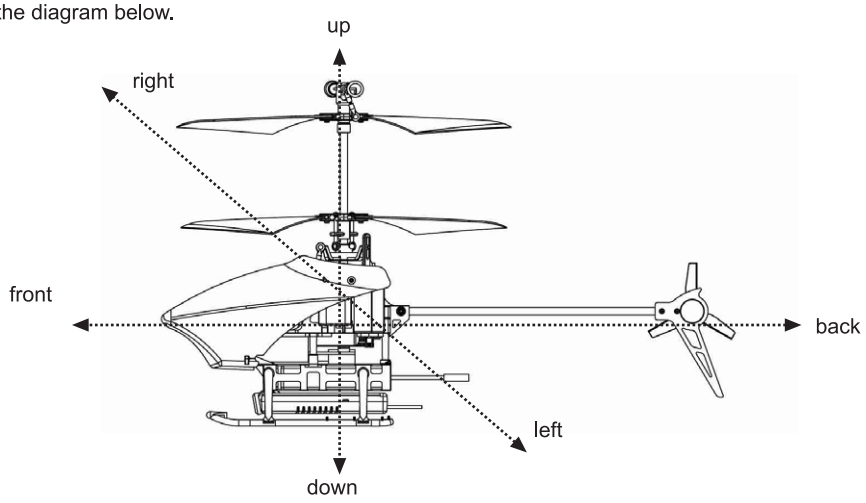
(4) Check all the connections between ball linkage and ball. Loose linkages and balls should be changed. Loose connection between linkage and ball will have an effect on the flight performance, even lose control.

(5) Assure there are solid connections between the power cables of battery pack and motors. Continuous vibrations in flight may loosen the battery tie-ins.

03

Definition of Helicopter Orientation

In order to avoid confusion, the following sections will use the directions and orientations defined as follows. The helicopter is in front of the pilot with the tail boom and rotor closest to the pilot (tail in), the head or nose is facing forward (pointing away from the pilot). The left hand of the pilot is to the left side of the helicopter, the right hand of the pilot is to the right side of the helicopter.Its head/nose is to the front and it's tail boom is to the back. The direction in which the main body is facing is defined as up and its skids are in the down direction, as shown in the diagram below.

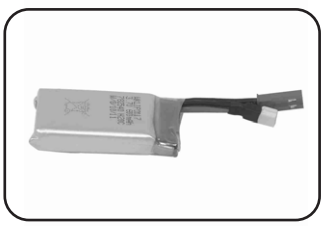


04

Standard equipments

▲ Helicopter

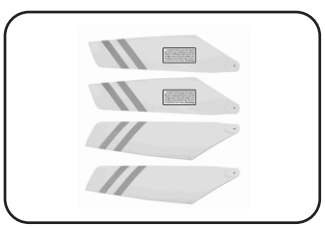
▲ Transmitter



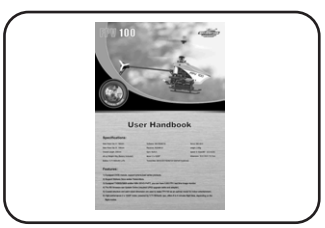
▲ Li-polymer battery pack

▲ Tool kit

▲ Wall adapter /Power supply



▲ Main rotor blades



▲ User handbook

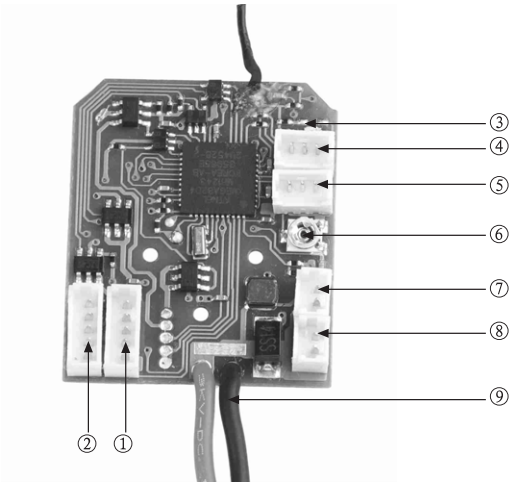
5.1 RX2460-D receiver features

(1) The RX2460-D receiver uses 2.4GHz spread spectrum technology with automatic scanning, code paring and LED bind indication functions.

(2) The use of a high performance receiver dramatically reduces the possibility of signal loss and ensures the accuracy and reliability of signal reception.

(3) 4-channel output makes multiple functions with fine control available.

(4) Tail Gyro sensitivity controls permit fine and customized adjustment to exactly match your operating requirements.



5.2 Function of receiver

S/N	Name for short	Full name	Function
①	AILE	Aileron servo	Connects to the aileron servo and receives the control signal of aileron servo.
②	ELEV	Elevator servo	Connects to the elevator servo and receives the control signal of elevator servo.
③	LED	LED	Displays the status of receiving signal.
④	**Upgrade channel one**	Upgrade channel one	a. Upgrade spare; b. Connects to the plug of the DV05 module signal wire; c. Connects to the plug of TX5805/TX5806(FCC) transmitter power wire.
⑤	**Upgrade channel two**	Upgrade channel two	Upgrade spare or plug in the bind plug to clearance the ID memory.
⑥	TAIL G.	Tail gyro sensitivity adjust knob	Adjusts the tail gyro sensitivity, changes the flight effect.
⑦	RIGHT MOTOR	Right motor	Connects to the right motor and receives the control signal of right motor.
⑧	LEFT MOTOR	Left motor	Connects to the left motor and receives the control signal of left motor.
⑨	BATT.	Power cable	Connects to the battery(3.7V)

5.3 Adjustment of receiver

(1) Tail gyro turning knob: CW rotating increases the tail gyro sensitivity and CCW rotating decreases the tail gyro sensitivity.

(2) Clear fix ID in receiver: Insert plug terminal into Upgrade channel two on receiver to clear fix ID memory and disconnect plug terminal when the indicator on receiver start to slow flash.

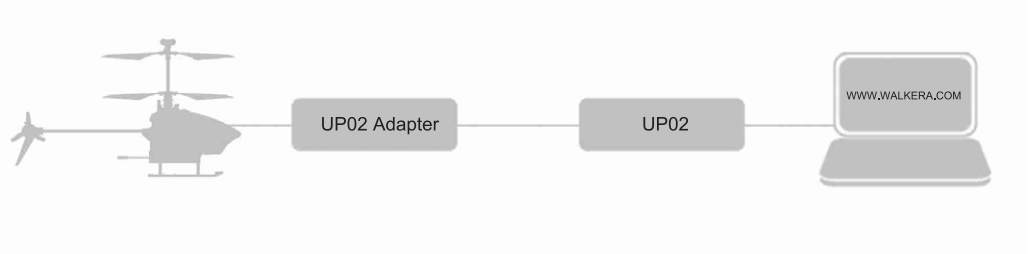
05

Setup of the RX2460-D receiver

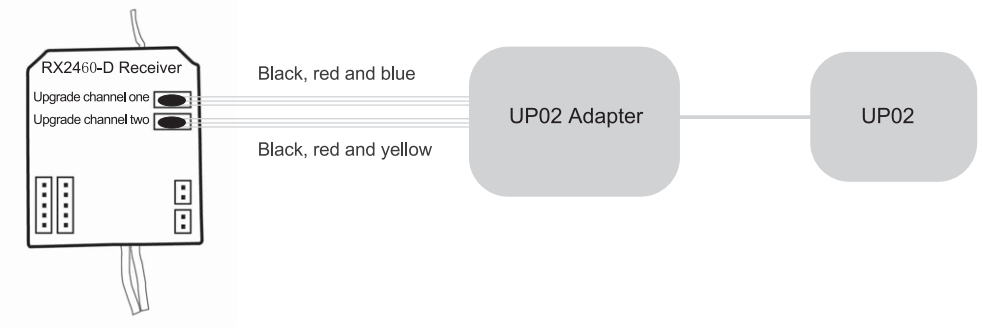
(3) Receiver upgrade:

(3.1) FPV100 control program upgrade can be downloaded online at Walkera Offical Website:www.walkera.com.

(3.2) FPV100 control program upgrade tool including UP02 cable and UP02 Adapter.



(3.3) Please plug the three-colored wire (**black, red and blue**) terminal into Upgrade channel one on receiver, meanwhile plug the other three-colored wire (**black, red and yellow**) terminal into Upgrade channel two (the fix ID will probably be cleared after upgrading). Please refer to illustration:



5.4 Channel connection of receiver

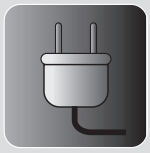
S/N	Receiver terminal	Connection method	Wire direction
①	AILE	Connects to the plug of aileron servo signal wire.	The red wire is facing front.
②	ELEV	Connects to the plug of elevator servo signal wire.	The red wire is facing front.
④	Upgrade channel one	a. Connects to the plug of the DV05 module signal wire; b. Connects to the plug of TX5805/TX5806(FCC) transmitter power wire.	The black wire is facing right.
⑦	RIGHT-MOTOR	Connects to the plug of right motor signal wire.	The black wire is facing front.
⑧	LEFT-MOTOR	Connects to the plug of left motor signal wire.	The black wire is facing front.

5.5 Matters needing attention

(1) All the signal wires should be connected in a correct way. Misconnection will result in failure to receive signal, even damage to receiver.

(2) Use the special adjustment pen supplied to rotate the tail gyro sensitivity dial in order to avoid damaging the adjustment dials.

(3) The helicopter must be placed in horizontal level when matching code.



06

Instruction for GA006 Charger

07

Servo setup and adjustment

6.1 Instruction for GA006 Charger

(1) GA006 is suitable for 1 cell (3.7V) Li-ion or Li-polymer battery and can charge 2 pieces of batteries maximum at the same time.

(2) Please plug the pin of your battery into the jack of the GA006 first and then connect to the power. Otherwise, the LED may not become red and the voltage may be higher than 3.8V. You need to disconnect the USB power supply and reconnect it.

(3) When USB power supply is well connected and battery is charging, the LED will become red. After your battery is full charged, the LED will not become red.

7.1 Specification and function of servo

7.1.1 Specification of servo

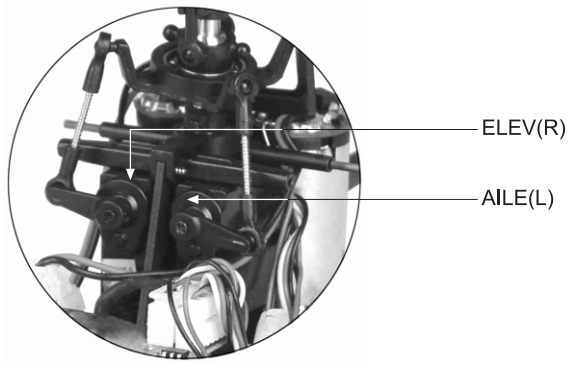
	Weight	Voltage	Speed	Dimension
WK-02-5	2.65g	3.0~4.5V	0.12sec/60°	16.5×6.8×15.7mm

7.1.2 Basic function of servo

A servo is an electro-mechanical device that converts a signal from the receiver into mechanical movement. By means of a sensor the accurate control of its direction and speed is possible.

7.2 Connection and adjustment of servos

7.2.1 Connection of servos



S/N	Receiver terminal	Connection method	Wire direction
①	AILE	Connects to the plug of aileron servo signal wire.	The red wire is facing front.
②	ELEV	Connects to the plug of elevator servo signal wire.	The red wire is facing front.

7.2.2 Adjustment of servos

Before departure from the factory, all the servos have been correctly adjusted and are locked in the correct position. In general no adjustment is needed.

7.2.3 Matters needing attention

(1) All the plugs should be correctly connected. An incorrect connection will cause the servos not to function or to operate in a direction which is different from the one required.

(2) Please ensure that the travel extents of the servo bell cranks are all within the permitted maximum range after maintenance, replacement or adjustment of servo linkages. Failure to do this could cause a servo to jam at maximum travel causing loss of control, damage and possibly injury.

08

Steps of flight

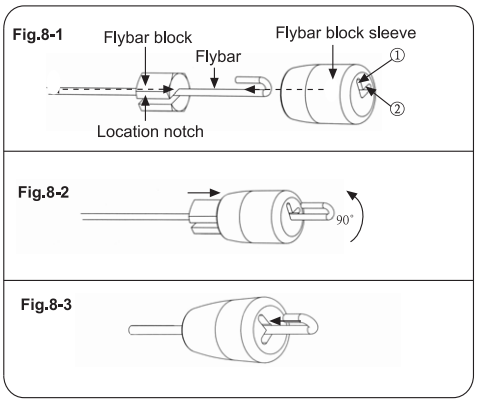
8.1 Flybar set assembly

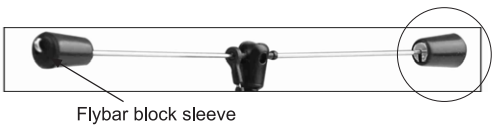
1. Let the location notch of flybar block aim at the flybar, and press the flybar block till the flybar reaches the end of notch; Insert one end of the flybar through hole 1 (Fig. 8-1);

2. Let the location notch of flybar block aim at the inner location mast of flybar block sleeve, and press the flybar block along the inner location mast into the sleeve (Fig. 8-2);

3. Counterclockwise rotate 90° the flybar block sleeve (Fig. 8-2), let the hole 1 of flybar block sleeve aim at the hook of flybar, and then push the flybar block set outside and make the hook completely insert into the hole 2 (Fig. 8-3).

Note: the flybar set will be thrown off at high speed in flying when it is mounted improperly. A serious damage to people or property may be taken place.





8.2 Installation of battery

Install the battery pack into the battery compartment along the arrow direction.

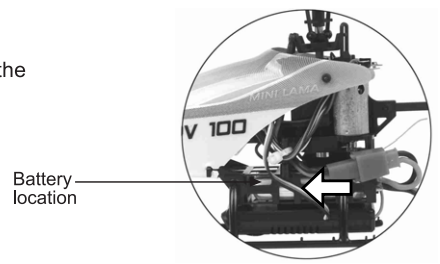


Diagram of battery installation.

8.3 CG balance. Put your helicopter in a horizontal ground and make the flybar vertical to the tail truss of your helicopter. Lift your helicopter using your index fingers to support the two sides of flybar, and check the balance. The tail truss should be level with the ground. If it is not, move the battery pack backwards or forwards to balance. Always check the Center of Gravity (CG) with the battery pack and canopy installed.

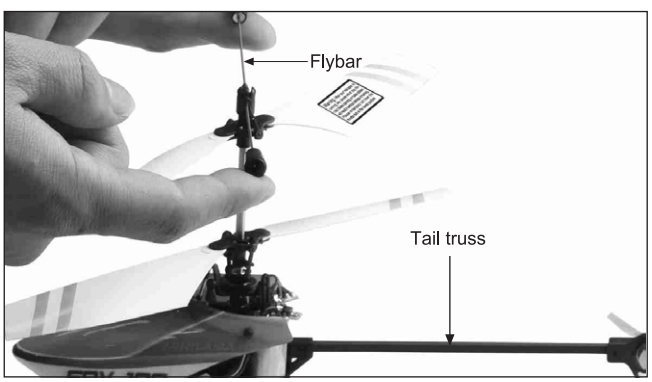


Illustration of battery installation

8.4 Adjustment before flight

Warning: Disconnect the power cable of main motor before adjustment for the sake of pilot's safety.

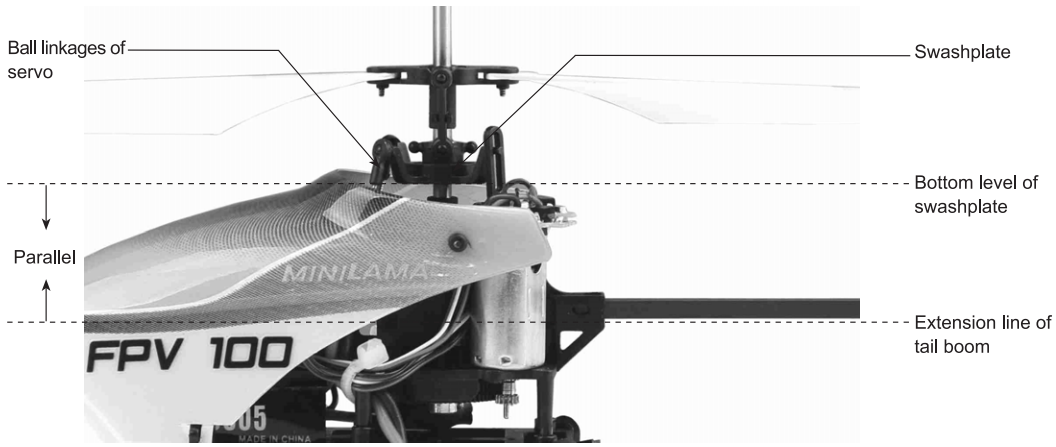
Matters needing attention: Before departing the factory, all of the components have been correctly adjusted. Normally it is not necessary to make any adjustment. However, due to disturbance during long-distance transportation, some joints, screws or parts may be loose or even damaged. For safety's sake, please refer to section 2.3 - "attention before flight" and strictly follow the helicopter checks described.

8.4.1 Adjustment of swashplate

Inspection of swashplate

Warning: Disconnect the power cable of main motor before adjustment for the sake of pilot's safety.

Put your helicopter in a spacious horizontal ground. Move the throttle stick and throttle trim of transmitter to the lowest position, and move the elevator , aileron and rudder trim at the neutral position, respectively. Turn on the transmitter first and then connect the power cable of helicopter. After the LED indicator of receiver keeps solid while mechanic beeps of servos initiation heard, the signal has been received. Then check whether the bottom level of swashplate is parallel to the longitudinal axis of the helicopter – the extension line of tail boom.



Swashplate adjustment.

If the swashplate is not horizontal, you can adjust through the following two steps:

(1) ELEV servo and AILE servo adjustment. Loosen the servo bellcrank screws and the servo bellcrank and then reconnect the power of the helicopter. Adjust the servo bellcrank to horizontal level after the reposition of the elevator and aileron servos, and then tighten the screws.

(2) Servo linkage rod adjustment. Adjust the length of the servo linkage rod to make the swashplate horizontal.

8.5 Adjustment of Main rotor blade

8.5.1 Inspection of Main rotor blade

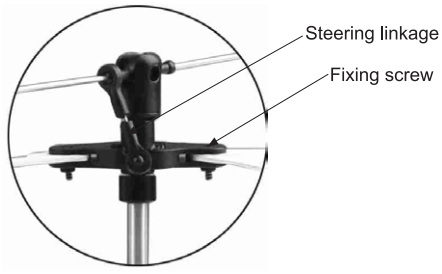
(1) Inspect whether the cross recessed pan head screw is too loose. If the cross recessed pan head screw is loose, the helicopter may vibrate during flight.

(2) Inspect whether the left and right main rotor blades are in line. If the left and right main rotor blades are not in line, the helicopter will vibrate during flight.

8.5.2 Adjustment of Main rotor blade

(1) If the cross recessed pan head screw of the main rotor blade is too loose, tighten the cross recessed pan head screw.

(2) If the left and right main rotor blades are not in line, hold the ends of the main rotor blades and stretch the blades in line.



09

WK-REMOTE software control

9.1 Software Installing

The software is designed for **iPhone** or **iPad**, please download the software WK-REMOTE at APP Store.

9.2 Connecting instruction

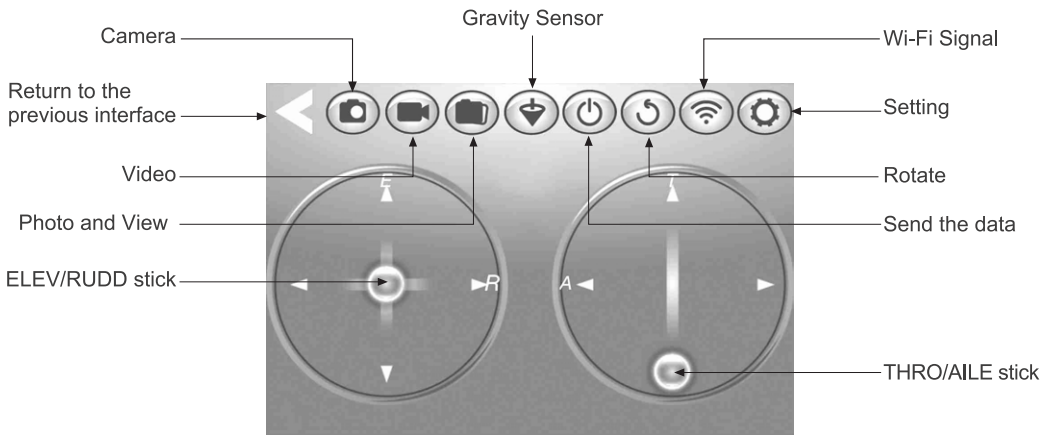
(1) Connect the helicopter power and the indicator light will flash quickly.

(2) Enter the iPhone or iPad setting interface to active the Wi-Fi. Then the WK******** could be found at the Wi-Fi search list. If there is a "√" symbol, it means successful binding. Exit after finish.

(3) Enter software in the iPhone or iPad and then enter Model Select interface. Touch icon to enter control interface. And then touch the icon of data transmission switch(data transmission switch is colorful). It means successful binding if the helicopter indicator light becomes solid. On the iPhone or iPad screen, there will be real-time video image shown. Then you are able to control the helicopter.(Note: When flying, please keep away from other Wi-Fi signal environment in case of interference)

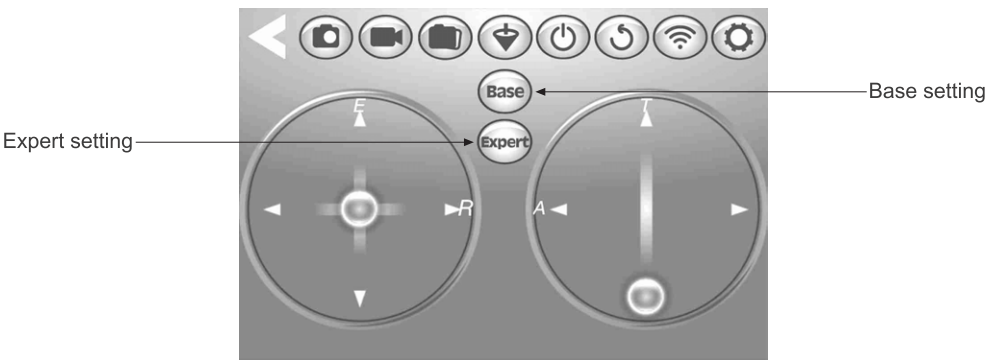
Booting interface　　Model Select interface　　Control interface

9.3 Control interface instruction



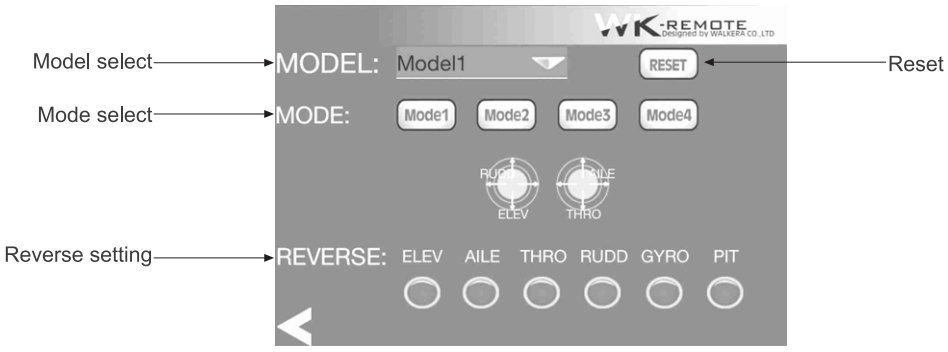
9.4 Function setting

Touch in flight control interface to enter to setting menu, show as below:



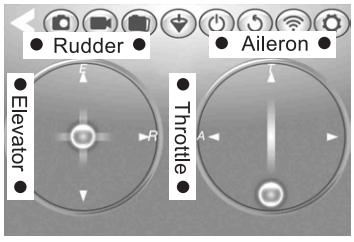
9.4.1 Base setting

Touch base setting icon shown as on above picture, there are Model select, Mode select, Reverse setting. Shown as below:

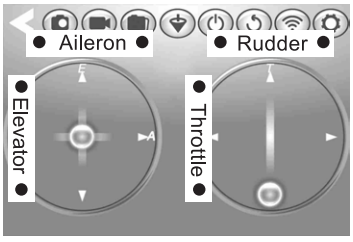


(1) Model select: there are 4 model can be selected.

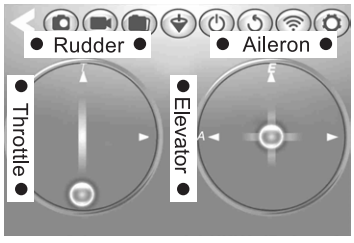
(2) Mode select : there are 4 mode available. Throttle stick on the right (Mode1 and Mode3) and throttle stick on the left(Mode2 and Mode4).



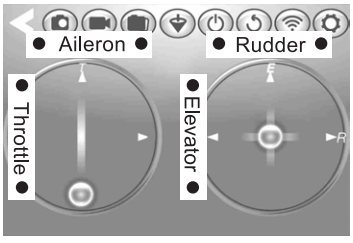
Mode 1(Throttle stick on the right)



Mode 3(Throttle stick on the right)



Mode 2(Throttle stick on the left)



Mode 4(Throttle stick on the left)

(3) Reset: When touch this Reset icon, all settings will be reset to the factory original setting.

(4) Reverse setting: Elevator, Aileron, Throttle, Rudder, Gyro, Pitch and so on, all of them are normal. Unselected symbol is gray means normal options, selected the symbol is colorful means reverse setup.

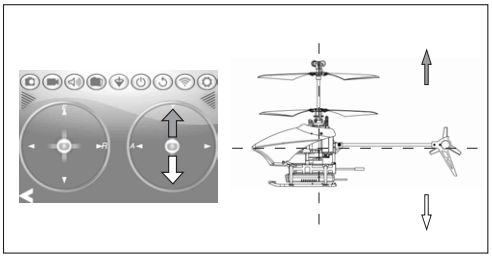
9.4.2 Expert setting: It doesn't need any Expert setting.

09

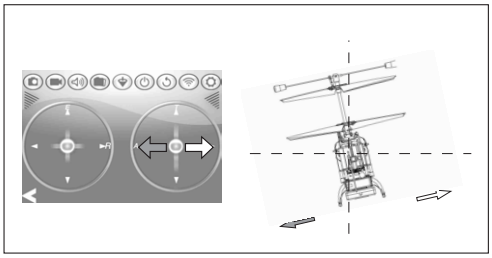
WK-REMOTE software control

9.5 Operating methods

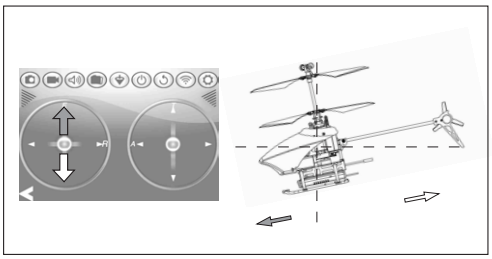
9.5.1 Manual flight control (take Mode 1 as example)



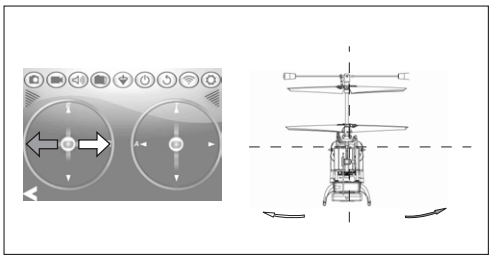
(1) Throttle stick control: Press and hold the throttle control ball and then pushed up, the motor rotates, the higher it push, the faster the motor will rotate(fly higher); The motor will slow down when push down, the lower it push, slower the motor rotates.



(2) Aileron stick control (left and right): When moving the AILE control ball left, the helicopter accordingly flies left; When moving the AILE control ball right, the helicopter accordingly flies right.



(3) Elevator stick control(forward and backward): When moving the ELEV control ball up, the helicopter accordingly flies forward; When moving the ELEV control ball down, the helicopter accordingly flies backward.

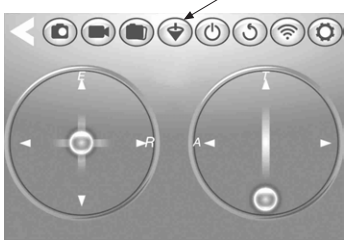


(4) Rotate control: When moving the RUDD control ball left, the helicopter accordingly rotate left(CCW); When moving the RUDD control ball right, the helicopter accordingly rotate right(CW).

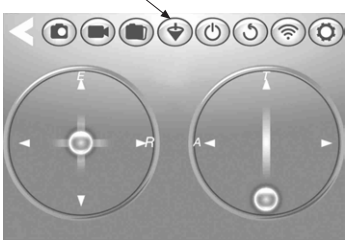
9.5.2 Gravity sensor control when flying(take sample for mode 1)

Touch the gravity sensor button on the screen, colorful is ON while gray is OFF. Please refer to below Illustration:

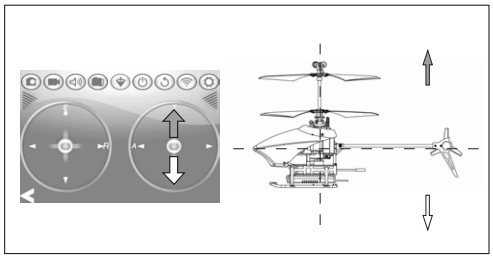
Gravity Sensor key Non Active status



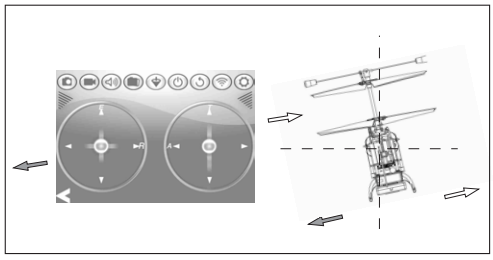
Gravity Sensor key Active status



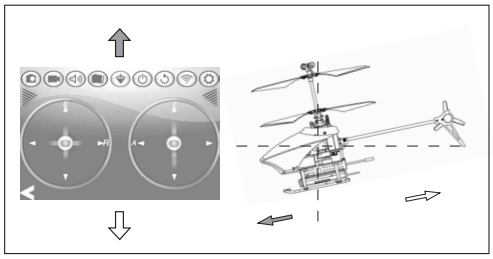
When switch the gravity sensor to colorful status, elevators and aileron control will be changed to gravity sensor control mode(can be operated by one hand). the direction control show as below:



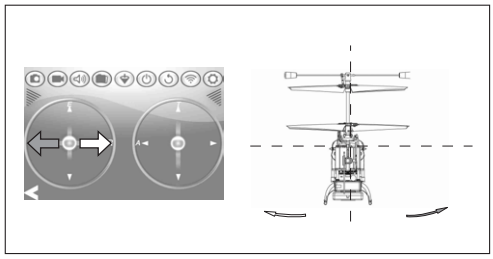
(1) Throttle stick control: Press and hold the throttle control ball and then pushed up, the motor rotates, the higher it push, the faster the motor will rotate(fly higher); The motor will slow down when push down, the lower it push, slower the motor rotates.



(2) Aileron stick control (left and right): When moving the phone to the left, the helicopter will fly to the left; when moving the phone to the right, the helicopter will fly to the right (The control ball won't scroll in mode 1 and mode 4 while in mode 2 and mode 3, the ball will scroll.)



(3) Elevator stick control(forward and backward): When moving the phone to the front, the helicopter will fly forward; when moving the phone to the back, the helicopter will be backward. (The control ball won't scroll in mode 1 and mode 4 while in mode 2 and mode 3, the ball will scroll.)



(4) Rotate control: When moving the RUDD control ball left, the helicopter accordingly rotate left(CCW); When moving the RUDD control ball right, the helicopter accordingly rotate right(CW).

9.6 Matters needing attention

(1) Touch the icon for pause during the flight. Gray is OFF and forbid to use the control ball on the screen. Touch the icon again to continue. Colorful is ON and active the control ball at the same time.

(2) If the Wi-Fi can not to connect:

Possible causes	Solutions
The helicopter battery is low.	Confirm the battery is fully charged.
Wi-Fi can not search the network.	Please close the Wi-Fi and research with the net again.

(3) If you need to change the helicopter battery, please exit the software WK-REMOTE programe completely. When the Wi-Fi search list is re-fresh again, please select the corresponding net to connect . After success binding with the phone, please enter to the software WK-REMOTE again.

(4) The WK-REMOTE software's maximum remote radius is 25 meters, so do not operate exceed this radius.

10

Transmitter control

10.1 Transmitter setup

10.1.1 DEVO-6/7/7E/8S/10/12S/F4/F7(optional radio)settings

(1) Type:Helicopter

(2) Swash type:1 Servo Normal

(3) Device Output

DEVO-6			DEVO-7			DEVO-7E			DEVO-F7		
Gear	FMOD SW	Gyro	GEAR	GEAR	ACT	Gear	HOLD SW	Active	Gear	GEAR SW	Active
Pitch	System	Active	AUX2	AUX2	GYRO	AUX2	FMOD SW	Gyro	Pitch	System	Active
									AUX2	FMOD SW	Gyro

DEVO-8S			DEVO-10			DEVO-12S		
Gear	GEAR SW	Active	Gear	GEAR SW	Active	Gear	GEAR SW	Active
Pitch	System	Active	AUX2	FMOD SW	Gyro	Pitch	System	Active
AUX2	FMOD SW	Gyro	AUX3	RUDD D/R	Active	AUX2	FMOD SW	Gyro
AUX3	RUDD D/R	Active	AUX4	AUX4 KB	Active	AUX3	AUX3 Lever	Active
			AUX5	AUX5 KB	Active	AUX4	AUX4 Lever	Active
						AUX5	AUX5 Lever	Active
						AUX6	AUX6 Knob	Active
						AUX7	AUX7 Knob	Active

(4) Reverse switch settings

DEVO-6		DEVO-7		DEVO-7E		DEVO-8S	
Elevator	Normal	ELEV	NORM	Elevator	Normal	Elevator	Normal
Aileron	Normal	AILE	NORM	Aileron	Normal	Aileron	Normal
Throttle	Normal	THRO	NORM	Throttle	Normal	Throttle	Normal
Rudder	Normal	RUDD	NORM	Rudder	Normal	Rudder	Normal
Gyro	Normal	GEAR	NORM	Gear	Normal	Gear	Normal
Pitch	Normal	PITCH	NORM	Pitch	Normal	Pitch	Normal
		GYRO	NORM	Gyro	Normal	Gyro	Normal
						AUX3	Normal

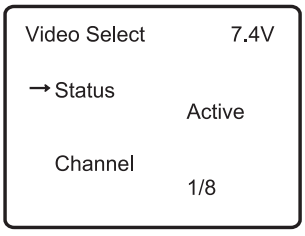
DEVO-F4		DEVO-F7		DEVO-10		DEVO-12S	
Elevator	Normal	Elevator	Normal	Elevator	Normal	Elevator	Normal
Aileron	Normal	Aileron	Normal	Aileron	Normal	Aileron	Normal
Throttle	Normal	Throttle	Normal	Throttle	Normal	Throttle	Normal
Rudder	Normal	Rudder	Normal	Rudder	Normal	Rudder	Normal
		Gear	Normal	Gear	Normal	Gear	Normal
		Pitch	Normal	Pitch	Normal	Pitch	Normal
		Gyro	Normal	Gyro	Normal	Gyro	Normal
				AUX3	Normal	AUX3	Normal
				AUX4	Normal	AUX4	Normal
				AUX5	Normal	AUX5	Normal
						AUX6	Normal
						AUX7	Normal

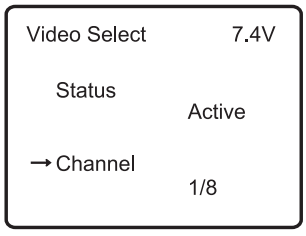
10.1.2 2402D/DEVO-4 radio reverse setting

2402D		DEVO-4		
ELEV	NOR	ELEV	NOR	**Remark:** the switch in the "ON" position for reverse (REV); the switch in the "ON" reverse position for normal (NOR).
AILE	NOR	AILE	NOR	
THRO	NOR	THRO	NOR	
RUDD	NOR	RUDD	NOR	

10.2 DEVO-F4/F7 with TX5805/TX5806(FCC) Video Select

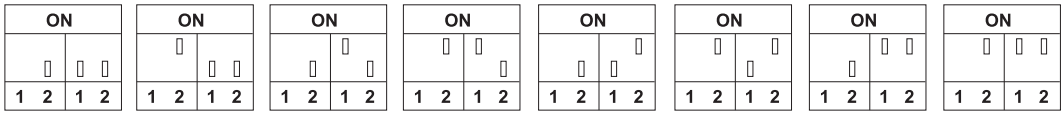
Press ENT to the Main Menu. Press UP or DN to move the cursor → to point to System Menu, press ENT to System Menu; Press UP or DN to move the cursor → to point to Video Select, press ENT to Video Select setting interface. Press R or L to select Active. Press DN to move the cursor → to point to Channel item, press R or L to make the Number change between 1 and 8. With the TX5805/TX5806 (FCC) transmitting channel,1-8 channels could be choosed to receive the image signal. Press ENT to confirm and then press EXT to exit.





10.2.1 TX5805 Transmitting channel selection

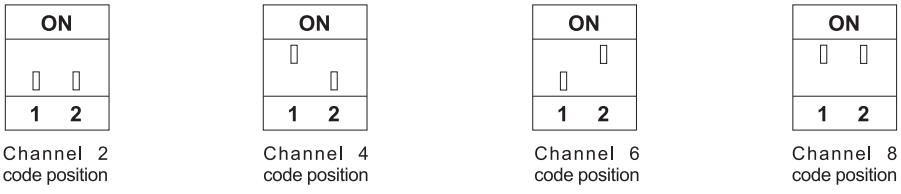
There are 8 different channels can be selected. You can choose the best frequency channel according to the image quality like follows(The left code switch 1 is idle):



Remark: TX5805 Transmitting channel is corresponding to the video receive channel.

10.2.2 TX5806(FCC) Transmitting channel selection

There are 4 different channels can be selected. You can choose the best frequency channel according to the image quality like follows:



Remark: TX5806(FCC) Transmitting channel is corresponding to the video receive channel.

10 Transmitter control

10.3 Turn on the power

10.3.1 Turn on the power

Step 1: Install the battery pack into the battery compartment along the arrow direction.	Step 2: Turn on the power of transmitter.
Step 3: Pull down the throttle stick and throttle trim of transmitter to the lowest position, and then move the elevator trim, aileron trim, and rudder trim at the neutral positions, respectively.	Step 4: Connect the power cable of the helicopter and wait to receive the signal from the transmitter. The helicopter should be placed on flat ground or surface during code paring (binding). Do not move the transmitter sticks or the helicopter until binding has completed.

10.3.2 Matters needing attention

(1) When operating, please obey the principle of **"turn on transmitter first, and connect the power cable of helicopter last"**. Connect the power cable of helicopter in 10 seconds after the transmitter turned on. The red LED in receiver begins to flash. If the red LED becomes solid lighting and the mechanic beeps of servos initialization are heard, the receiver has received the signal from transmitter. The code pairing is successfully finished.

(2) If failed to connect the power cable of helicopter in 10 seconds after transmitter is turned on, please turn off the transmitter and repeat the step (1).

10.3.3 Trouble shooting a flashing receiver LED after connecting the power cable

Possible causes	Solutions
Code pairing failed.	Turn transmitter off then on and re-connect helicopter power cable.
The throttle trim and throttle stick of transmitter are not at the lowest position.	Pull down the throttle trim and throttle stick to the lowest position and re-code pair.
The transmitter battery is low or empty.	Replace transmitter battery and re-code pair (re-bind).
The helicopter battery is low or empty.	Replace the helicopter battery with a fresh pack and re-code pair.
No function in receiver or transmitter.	Replace faulty receiver or transmitter and re-code pair.

10.4 Disconnect the power

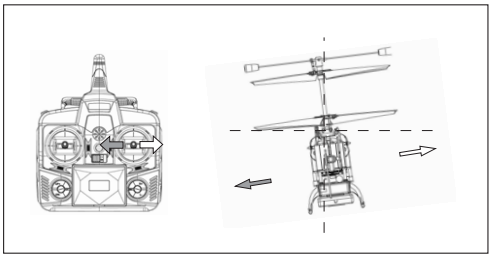
Step 1: disconnect the power cable of helicopter.	Step 2: turn off the transmitter.	Step 3: take off the battery pack.

10

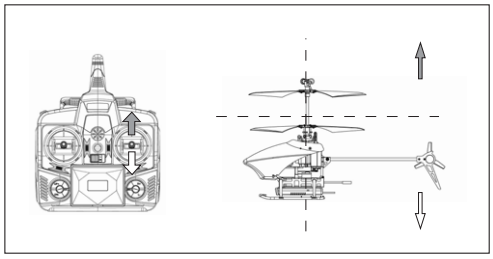
Transmitter control

10.5 Flight control

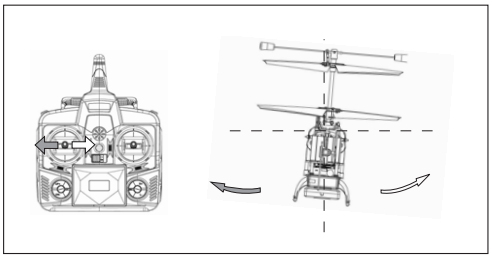
Mode 1 (throttle stick on the right hand)



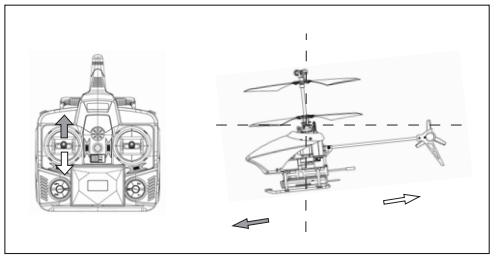
1. When moving the aileron stick left or right, the helicopter accordingly flies left or right.



2. When moving the throttle stick up or down, the helicopter accordingly flies up or down.

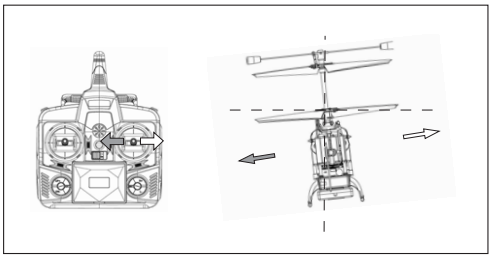


3. When moving the rudder stick left or right, the head of helicopter accordingly rotates to the left or right.

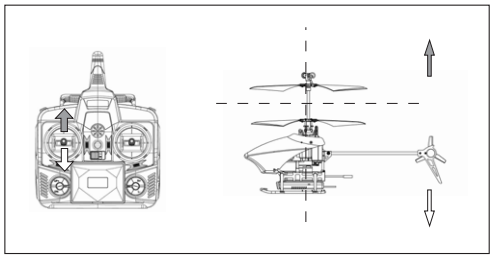


4. When moving the elevator stick up or down, the helicopter accordingly flies forward or backward.

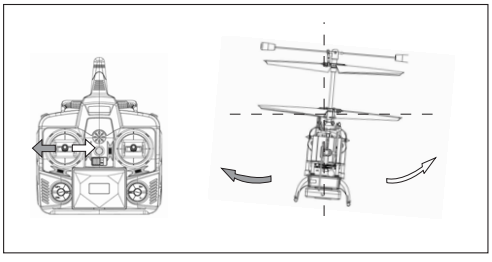
Mode 2 (throttle stick on the left hand)



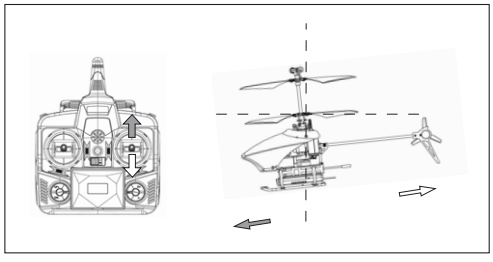
1. When moving the aileron stick left or right, the helicopter accordingly flies left or right.



2. When moving the throttle stick up or down, the helicopter accordingly flies up or down.



3. When moving the rudder stick left or right, the head of helicopter accordingly rotates to the left or right.



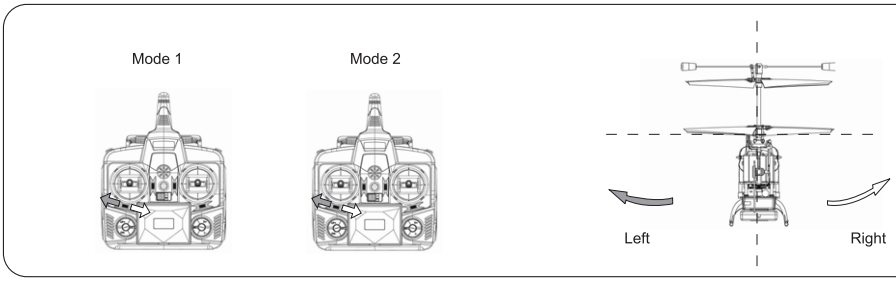
4. When moving elevator stick up or down, the helicopter according flies forward or backward.

10

Transmitter control

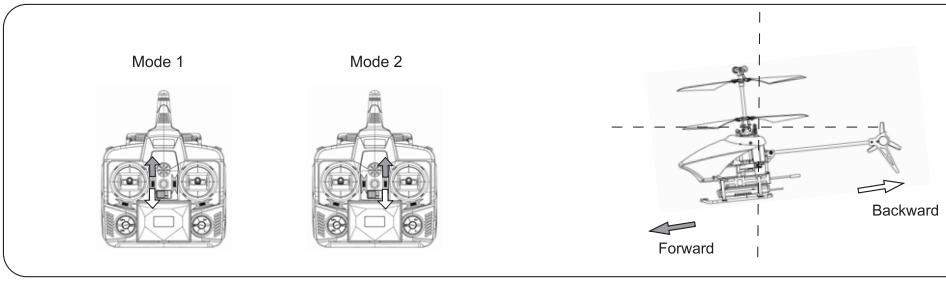
10.6 Trimming the flight actions

(1) Adjust the rudder trim



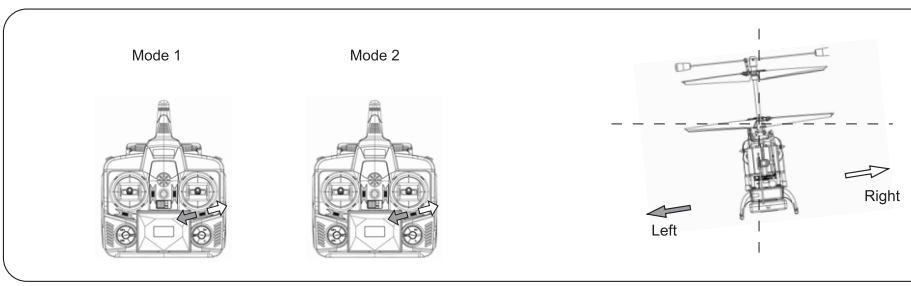
Move the rudder trim right if the head of helicopter flies leftward during taking off; otherwise move the rudder trim left.

(2) Adjust the elevator trim



Move the elevator trim down if the helicopter flies foward during taking off; otherwise move it up.

(3) Adjust the aileron trim



Move the aileron trim right if the helicopter flies leftward during taking off; otherwise move it left.

10

Transmitter control

10.7 Flight practice

10.7.1 Flight practice for the beginners

(1) Matters needing attention

(1.1) Beginners should be supervised and guided by skilled pilots when learning.

(1.2) For the sake of safety, people should keep at least 5 meters away from the helicopter during practice.

(1.3) Choose a spacious open ground without people and obstacles as the flight practice field.

(1.4) This is a coaxial helicopter. We kindly suggest that the knowledge of flying 2D/ coaxial helicopter is a pre-requisite before flying this model.

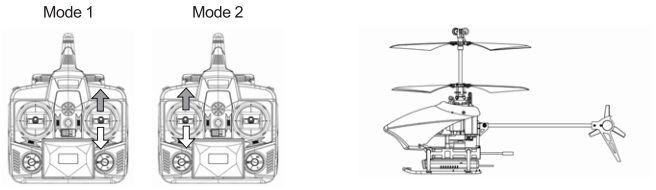
(1.5) The use of a suitable training gear attachment is recommended while learning.

(2) Steps

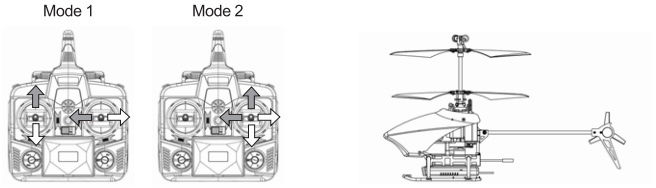
(2.1) Practicing throttle control - stationary flight

Start by standing directly behind the helicopter, tail closest to you and head/nose pointing away.Practice taking off from the ground and then by slowly pulling down on the throttle stick, land it softly and horizontally. Repeat this step until the throttle can be finely and carefully controlled.

When hovering,the tail rotor counteracts torque but also pushes helicopter to the left. Don't forget to counteract this effect using cyclic stick to the right and take off slightly inclined. It is important to hover vertically, stabilize helicopter at 1.5m height and then land it.

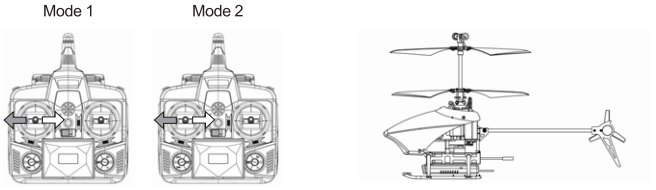


(2.2) Practice of aileron and elevator control



First increase throttle and enter a stable hover as practiced in the previous section. Next, use the elevator and aileron sticks to purposely fly the helicopter in a 'cross pattern' forwards, backwards, to the left and to the right. In between each direction, return to hover over the take off point. Continue to repeat this step until it can be completed with ease.

(2.3) Practicing rudder control

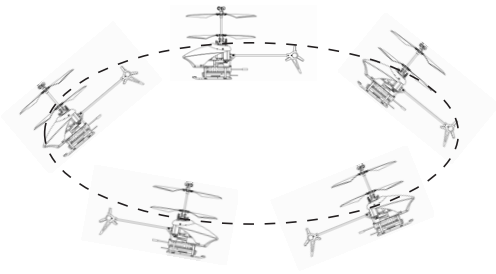


Enter a stable hover as practiced in step one, then practice rotating the head of the helicopter to face left then back to face right and back to facing forwards (away from the pilot). Start with a rotation angle of 30 degrees or less and gradually increase it as you become more comfortable and more experienced.

(2.4) Practicing circular flight

After mastering steps (2.1) to (2.3) with ease, please draw or mark a large circle on the ground. Fly your helicopter along this circular track until the flight is smooth and controlled.

You may wish to stand inside the circle at first to practice circular flight before needing to control the nose in orientation. Fly circles in both directions and at a constant altitude to be comfortable with this step.



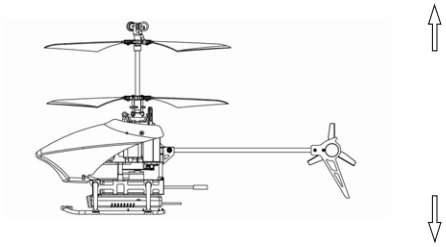
10

Transmitter control

10.7.2 Advanced practice

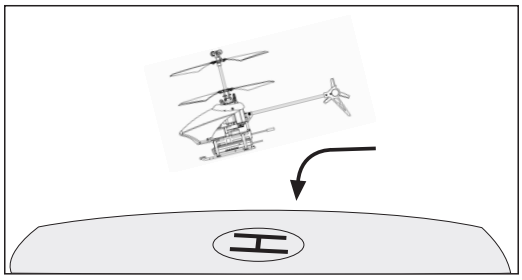
(1) Frog-hopping practice

Repeat the take off and landing action using the throttle stick whilst maintaining a vertical path. Increase your rate of ascent and descent gradually as you become more comfortable with the exercise. Be sure to slow down in time when landing!



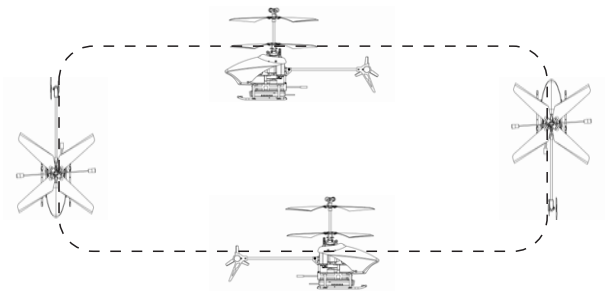
(2) Controlled take off and landing practice

Mark out an area on the ground as a landing pad to help practice deliberately taking off and landing from a set location. The process of take off and landing should be kept stable and as close to vertical as possible.



(3) Square flight practice

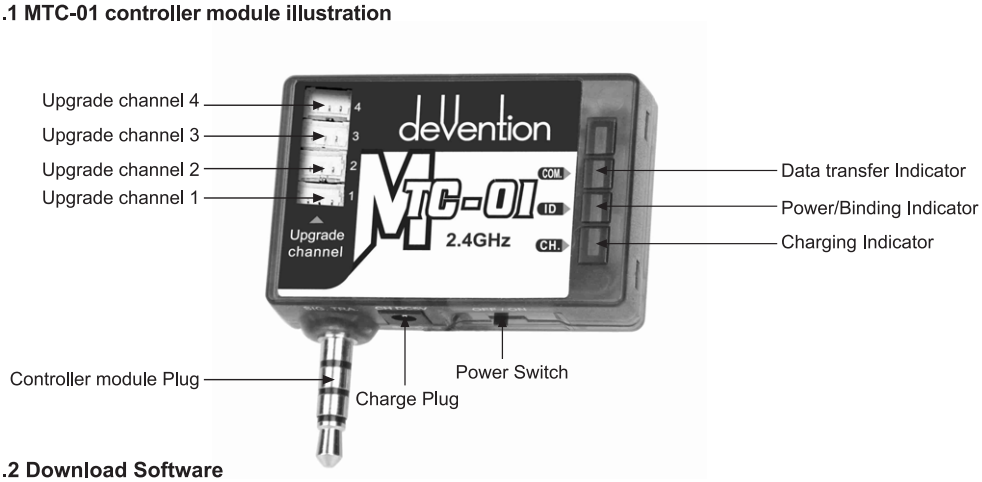
Take the takeoff point as the center to draw a square whose side length is about 2 meters. Fly your helicopter along the 4 sides and keep the flight height parallel to the line of sight. Make a 90 degree rotation at each corner of the quadrangle to adjust the flight direction. Train your straight flight skills and 90 degree flight course control. Fly in both directions around the circuit until familiar with the maneuver.



(4) Figure eight practice

Once you have mastered the previous steps you can try flying smooth flat figure eights. Try to maintain the same altitude during the entire flight path. Take care when flying where there is wind as it may cause the helicopter to suddenly rise or fall unexpectedly.

11.1 MTC-01 controller module illustration



11.2 Download Software

(1) For IPhone/IPad users, please go to the Apple Store (APP Store) to download the software RC-COPTER and install it.

(2) Android system (above 2.0 version), please visit the Walkera official website (www.walkera.com) to download RC-COPTER.apk and install it.

(3) Click the software icon , and install the software as per the instruction.

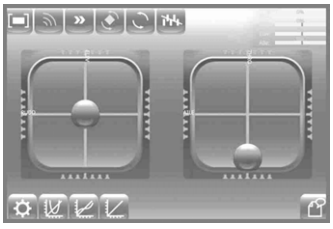
11.3 Method

Notice : Please adjust phone to Airplane mode (Please refer to the moble phone manual) in order to avoid accident from calling interference.

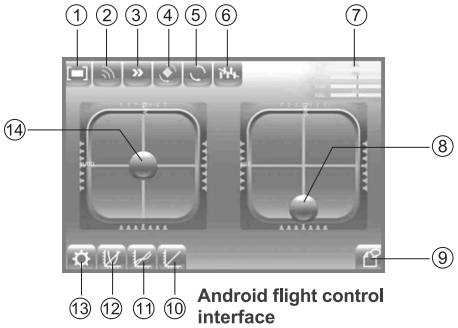
11.3.1 Active RC-COPTER software

(1) Find icon on the phone interface and Active RC-COPTER software, as shown below.

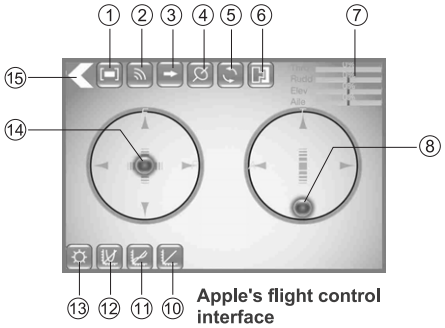
(2) Press enter to control interface as shown below:



11.3.2 Following picture shows instruction in the control interface



Android flight control interface



Apple's flight control interface

①	Touch Screen Size Switch Key	②	Binding	③	Throttle direction indicator/Mode Switch key
④	Gravity sensor	⑤	Interface rotation	⑥	Binding Reset
⑦	Channel Display	⑧	THRO/AILE stick	⑨	Help
⑩	PIT curve	⑪	D/R and Exponential curve	⑫	Throttle curve
⑬	Setup	⑭	ELEV/RUDD stick	⑮	Return to the previous interface

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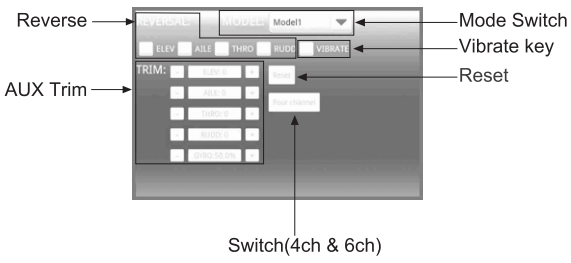
11.3.3 Binding

Plug the MTC-01 to the audio jack of phone, and turn on the MTC-01, the data transfer indicator is off after short green flashing, and the power indicator keeps blue light. Press Binding Icon in the flight control interface.The binding indicator is flashing in blue light(If the blue light don't flash, please press the Binding Reset Key in the flight control interface and then press the binding key until the binding indicator blue light flashes). Connect the helicopter battery, the light becomes RED and flashing. The indicator of the helicopter becomes solid after successful binding, At this point, the binding could be finished with touching any stick of radio(The throttle stick is excluded), or you can wait until the automatic binding by the phone(Longer time is needed). The data transfer Green light flashes, the power BLUE indicator keeps solid. The RED indicator of helicopter becomes solid after flashing(the receiver programe is initialization), the binding is successful .

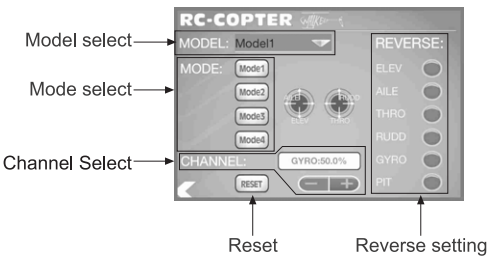
11.4 Function setting

Touch ⚙ in flight control interface to enter to setting menu, show as below:

Android setting interface



Apple setting interface



11.4.1 Model select: there are 4 model can be selected.

11.4.2 Reverse setting: The settings of elevator, aileron, throttle, rudder, gyro, pitch,etc are normal. If not select as normal, select as reverse.

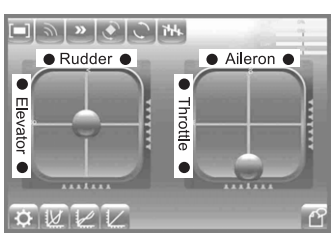
11.4.3 Vibration switch: If vibration switch turn on (not select as normal but turn on), when operate the control ball during the flight, the phone will vibrate.

11.4.4 AUX trims: touch + or - to change the value according to quadcopter performance.

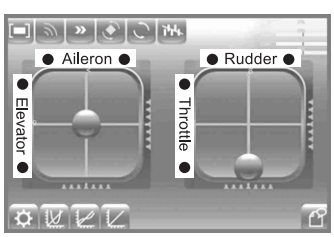
11.4.5 Channel Select: gyro sensitivity setting, touch + or – can change the values.

11.4.6 Mode switch

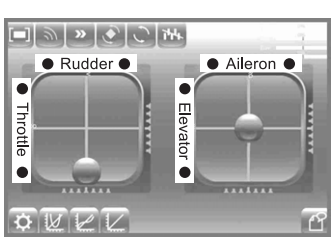
There are four switch modes. Right hand throttle (Mode 1, Mode 3); Left hand throttle (Mode 2, Mode 4).



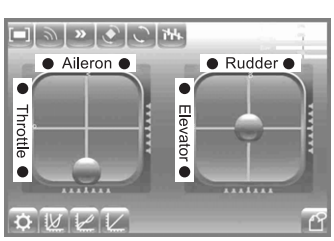
Mode 1(Right hand throttle)



Mode 3(Right hand throttle)



Mode 2(Left hand throttle)



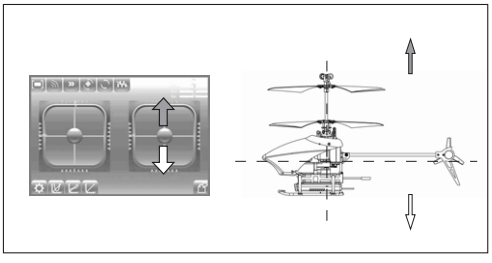
Mode 4(Left hand throttle)

11.4.7 Reset: All the settings will renew to factory settings when you Press this key.

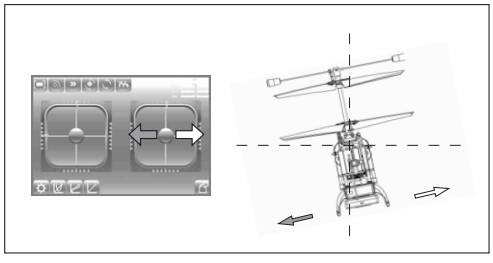
11.4.8 Throttle curve , Dual Rate and Exponential curve: no need to set.

11.5 Operating methods

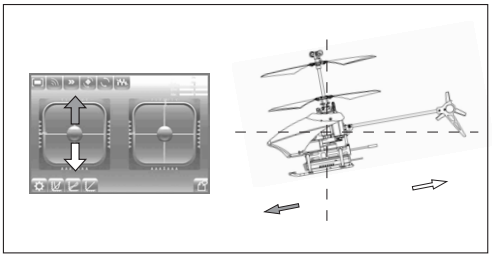
11.5.1 Manual flight control (take Mode 1 as example)



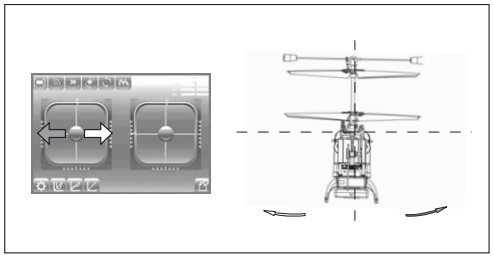
(1) Throttle stick control: Press and hold the throttle control ball and then pushed up, the motor rotates, the higher it push, the faster the motor will rotate(fly higher); The motor will slow down when push down, the lower it push, slower the motor rotates.



(2) Aileron stick control (left and right): When moving the AILE control ball left, the helicopter accordingly flies left; When moving the AILE control ball right, the helicopter accordingly flies right.



(3) Elevator stick control(forward and backward): When moving the ELEV control ball up, the helicopter accordingly flies forward; When moving the ELEV control ball down, the helicopter accordingly flies backward.

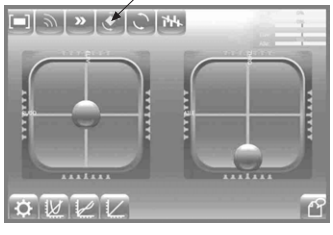


(4) Rotate control: When moving the RUDD control ball left, the helicopter accordingly rotate left(CCW); When moving the RUDD control ball right, the helicopter accordingly rotate right(CW).

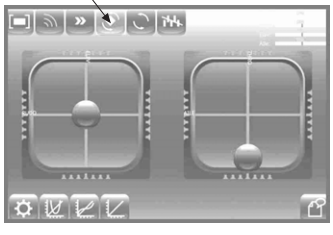
11.5.2 Gravity sensor control when flying(take sample for mode 1)

Touch the gravity sensor button on the screen, colorful is ON while gray is OFF. Please refer to below Illustration:

Gravity Sensor key Non Active status



Gravity Sensor key Active status



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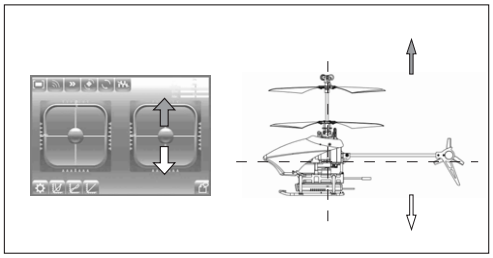
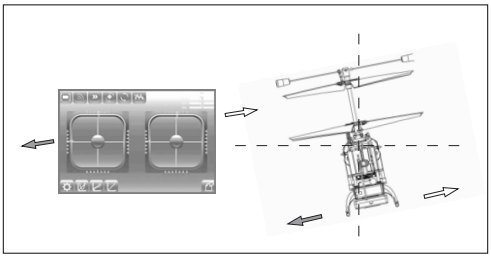
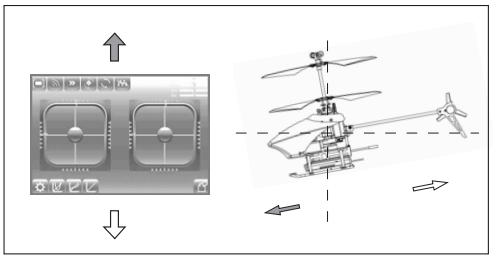
When switch the gravity sensor to colorful status, elevators and aileron control will be changed to gravity sensor control mode(can be operated by one hand). the direction control show as below:



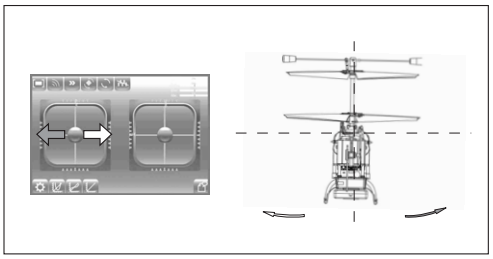
(1) Throttle stick control: Press and hold the throttle control ball and then pushed up, the motor rotates, the higher it push, the faster the motor will rotate(fly higher); The motor will slow down when push down, the lower it push, slower the motor rotates.



(2) Aileron stick control (left and right): When moving the phone to the left, the helicopter will fly to the left; when moving the phone to the right, the helicopter will fly to the right(For Iphone/ iPad , the controlled ball can't scroll in Mode 1 and Mode 4 mode, but can scroll in Mode 2 and Mode 3 mode).



(3) Elevator stick control(forward and backward): When moving the phone to the front, the helicopter will fly forward; when moving the phone to the back, the helicopter will be backward(For Iphone/ iPad , the controlled ball can't scroll in Mode 1 and Mode 4 mode, but can scroll in Mode 2 and Mode 3 mode).



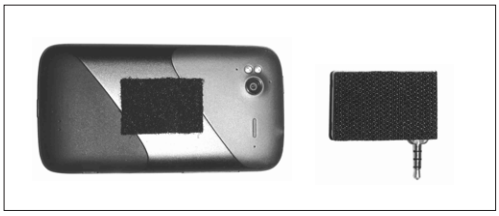
(4) Rotate control: When moving the RUDD control ball left, the helicopter accordingly rotate left (CCW); When moving the RUDD control ball right, the helicopter accordingly rotate right(CW).

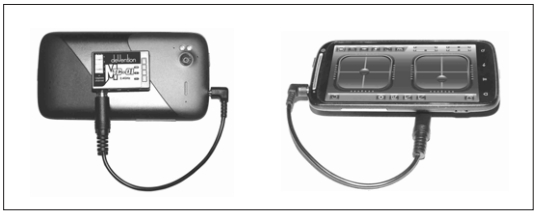
11.6 The Usage of mobile extended line(Optional)

(1) Paste the magic stickers seperately at the back of MTC-01 and mobile phone.

(2) Insert MTC-01 into parent end of signal line, the other end(dual-sound channel end) plugs into the audio jack of phone.

(3) Get the two magic stickers together for better flight control.The MTC-01 could also be hanged in the air without pasting the magic stickers.





11.7 MTC-01 for WK Series radios function manual

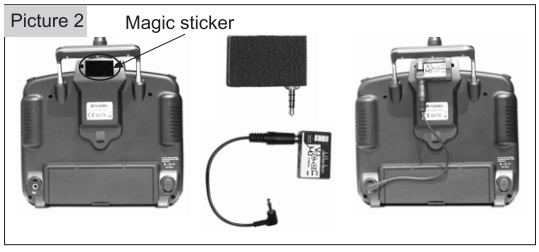
(1) MTC-01 function for all radios with the simulated output signal socket: Connect MTC-01 to simulated output signal socket in the radio(please refer to below Illustration), that can control the correspond channel receiver of Devo series helicopters, The specific methods are as follows:

(2) Connecting method: Insert MTC-01 into parent end of signal line, the other end plugs into the simulated output signal of the radio(attention: some radio could turn on by itself when you plug into the simulated output signal socket of the radio, in this case, don't need to turn on the radio after you connect it).(Shown as picture 1)

(3) Please fix the MTC-01 onto the back of radio by using magic sticker. It could prevent the flight from poor contact between the plugs.(Shown as picture 2)

Picture 1

Picture 2



(4) Binding:

(4.1) Turn on the MTC-01, the data transfer indicator light is off after short flashing, the power indicator light is Blue.

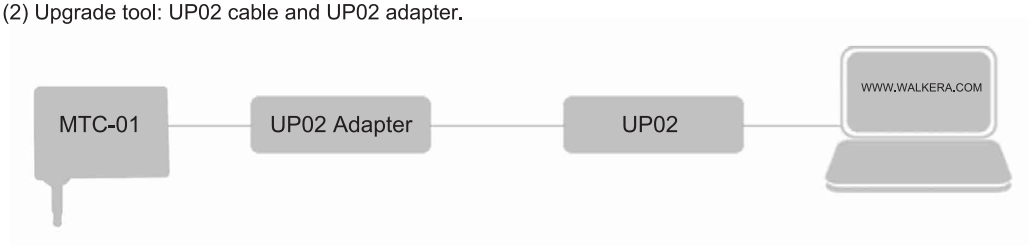
(4.2) Turn on the radio(as mentioned above, some radio could turn on by itself when you plug into the simulated output signal socket of the radio, in this case, please don't turn on the radio first after you connect it), The binding Indicator is flashing in Blue light. Connect the helicopter battery, the light becomes RED and flashing. The indicator of the helicopter becomes solid after successful binding, at this point, the binding could be finished with touching any stick of radio(he throttle stick is excluded). or you can wait until the automatic binding by the phone(longer time is needed). The data transfer Green light flashes, the power BLUE indicator keeps solid. The red indicator of helicopter becomes solid after flashing(the receiver program is initialization), the binding is successful.(Please refer to the corresponding radio manuals for other flight specifications).

11.8 Update Online

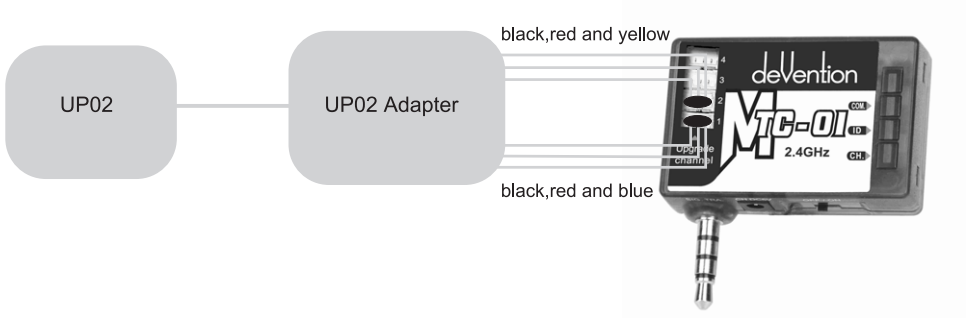
There are two piece programe IC inside the MTC-01 module can be updated(Signal collection control programe IC and RF control programe IC).

(1) Please login Walkera official wesite to upgrade the MTC-01 Control Program.

(2) Upgrade tool: UP02 cable and UP02 adapter.



(3) Control Program IC upgrade by Signal: Plug the line binded with black, red and blue into the MTC-01 upgrade channel 1, Plug the line binded with black, red and yellow into the MTC-01 upgrade channel 2.



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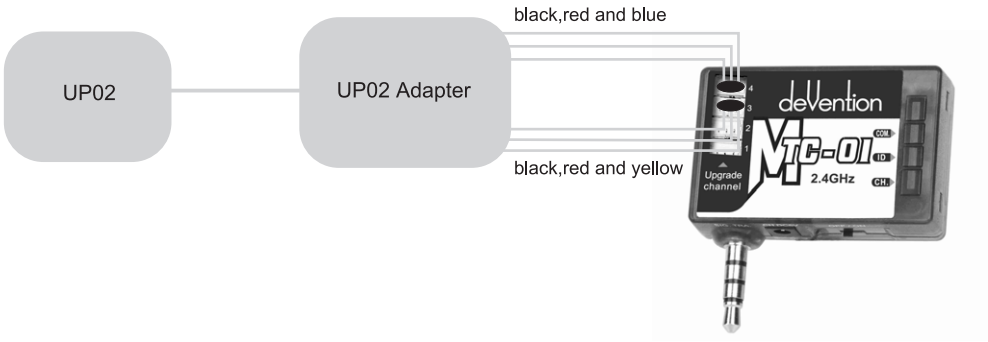
MTC-01 control

(4) Control Program IC upgrade by RF: Plug the line binded with black,red and yellow into the upgrade channel 3, Plug the line binded with black,red and blue into the upgrade channel 4.



11.9 Charger

(1) There is a 3.7V 80mAh LiPo battery in the controller. The battery can be charged with the USB wire.

(2) The charge indicator becomes solid red when charge the battery, and will turn off Automaticlly after fully charged.

(3) When MTC-01 power indicator and binding light flashing at the same time means you need to charge the inner battery at once.

(4) Charging Voltage:5V; Charging Current: ⩽500mA.

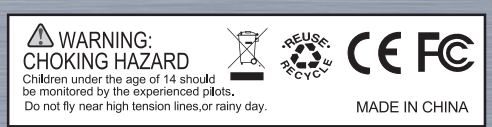
11.10 Matters needing attention

(1) The different hardware of Andriod phone may lead to the failure of using MTC-01. It's depends on the products which you are using.

(2) When using the phone to control, please adjust the volume at maximum to insure the normal data transfer. Please don't adjust the volume after successful binding. Please unplug the helicopter battery firstly, and then turn off the MTC-01 after flight.

(3) In case of emergency (A sudden flight for the helicopter), please don't make the Mode switch after successful binding.

(4) If a short stop is needed during flight, please press the Binding Key in the flight control interface. Both green light of the data transfer indicator and blue light of power indicator will be solid at the same time. The helicopter will be out of control if move the Control Stick in the flight interface. The short stop could be removed by pressing the Binding Key slightly.



The specifications of the R/C aircraft may be altered without notice.

walkera

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