

User Handbook



Specifications:

Main Rotor Diameter: 630 mm

Tail Rotor Diameter: 145 mm

Overall Length: 590 mm

Receiver: 6CH PPM or PCM

Servo: weight 9.1g / speed 0.12sec/60° / torque 1.1kg/cm / dimension 22.5X11.8X27mm

Drive System: 380 SD

Battery: Ni-MH12V 650mAh

All-up Weight: 640 g (Battery included)

Transmitter: 7CH PPM or PCM

Gyro: WK-G006

Speed Controller: 20A

Features:

- 1) CCPM mixing control system and collective pitch structure make perfect 3D maneuvers such as roll, inverted, and swoop flights.
- 2) The autorotation landing system is made of high-quality oneway bearing set and effectively offers the beginner with safe protection during landing.
- 3) Tail blades driven by belt provide easy adjustment, stable flight, and low noise.
- 4) 380 motor as the main power is powerful and makes the flight much stable.
- 5) The PPM-or PCM-modulated 7-ch transmitter offers the adjustable PIT parameter, rudder mixing, throttle curve, and rudder exponential functions. When mounting the PPM- or PCM-modulated RX 701 receiver, adjust the V2 knob of the transmitter to the mode or sensitivity which meets the gyro demand. This is an electric, instead of mechanic, means to adjust the gyro sensitivity.

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Introduction

Thank you for your purchase of our product. In order to fly your helicopter more easily and conveniently, we kindly recommend you to read carefully the whole user handbook and keep it in a safe way as a reference book for maintenance and adjustment in the future.

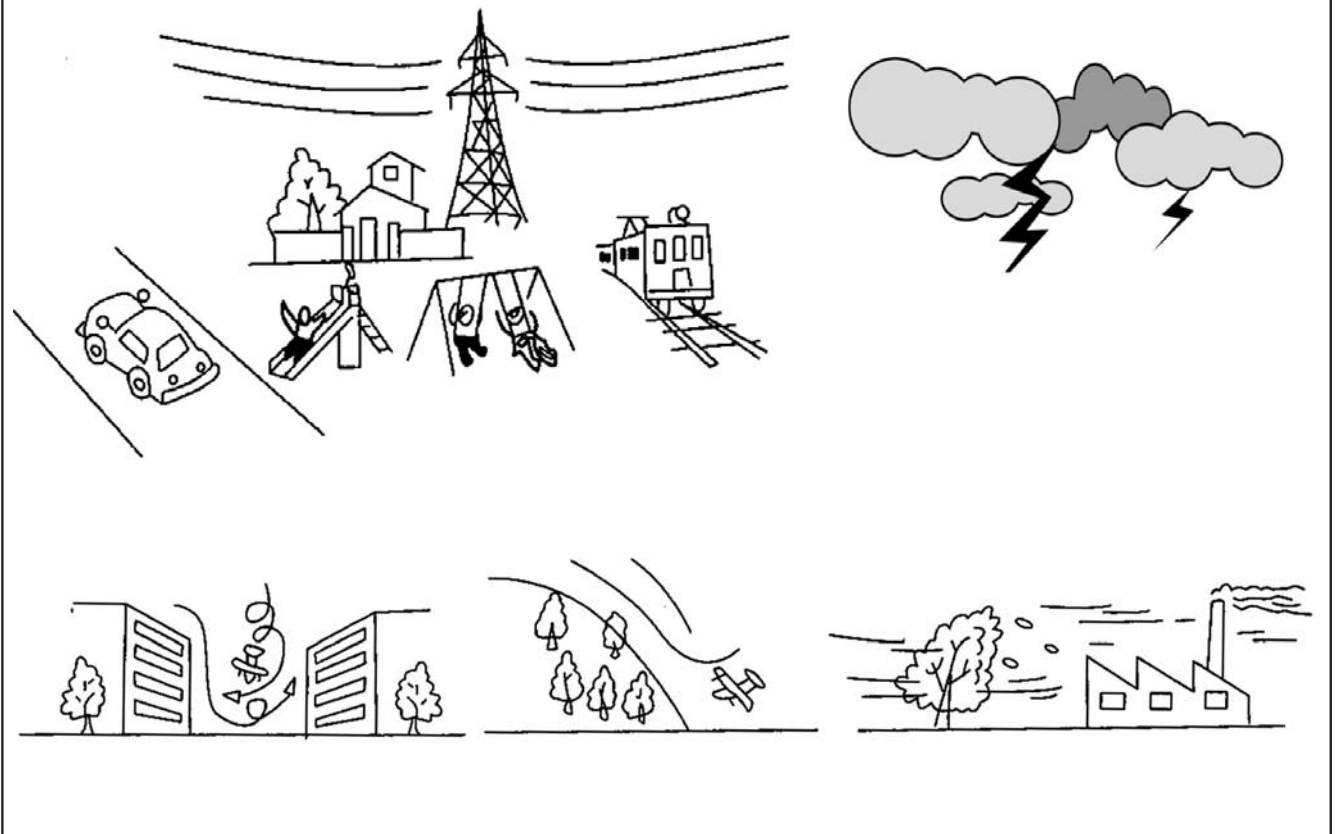
Warning

1. The HM 37 is not a toy. It is a complex combination of electronics, mechanics, and aerodynamics. It requires proper setup and fine adjustment to avoid accident. We accept no liability for damage and consequent damage arising from the use of the products, because we have no control over the way they are installed, used, and operated.
2. When charging the battery, do not overcharge. Overcharging may result in fire or explosion. When the battery is hot during charging, please stop charging at once. Use specified charger only. Never short circuit! The battery must be properly disposed of.
3. Children under 12 years old are strictly forbidden from flying the helicopter.
4. **Attention:** the brushed motor is just suitable for Ni-MH battery pack. If a Li-Po battery is used, your helicopter may be damaged!
5. Before starting to fly your helicopter, press and hold the starter of the brushed speed controller for 3 seconds and wait for its red LED lighting.
6. When your helicopter is running, any causes which stop the rotor blades spinning or make collision will result in serious damage or burning. Please immediately turn down the throttle stick at the lowest position!

Cautions

1. Because the helicopter is operated by radio control, it is important to make sure you are always using fresh and/ or fully charged batteries. Never allow the batteries to run low or you could lose control of the helicopter.
2. Do not allow any of the electrical components to get wet. Otherwise electrical damage may occur.
3. You should complete a successful range check of your radio equipment prior to each new day of flying, or prior to the first flight of a new or repaired model.
4. If the helicopter gets dirty, don't use any solvents to clean it. Solvents will damage the plastic and composite parts.
5. Always turn on the transmitter before plugging in the flight battery and always unplug the flight battery before turning off the transmitter.
6. Never cut the receiver antenna shorter or you could lose control of the helicopter during flight.
7. When flying the helicopter, please make sure that the transmitter antenna is completely extended and is pointed up toward the sky, not down toward the ground.

Don't fly your helicopter at the places with these signs



Transmitter Features

7- ch Transmitter Features:

1. The transmitter panel is simple to operate and the function is easy to understand.
2. The shape design accords with the ergonomics and is suitable for the pilot's hold.
3. Both NOR and CCPM modes are available to provide perfect 3D maneuvers such as roll, inverted, and swoop flights.
4. The transmitter can adjust throttle curve, PIT parameter, rudder mixing, exponential function, and the gyro sensitivity.
5. 7-channel micro-computer system as the encoder, PPM or PCM modulation, output power $\leq 750\text{mW}$; current drain: 200 mA; 1.2V X 8 Ni-Cd (9.6V 600 mAh) or 1.5V X 8AA dry cell battery pack; output pulse: 1050 -1850 Ms (1450 neutral).

Control Identification and Function:

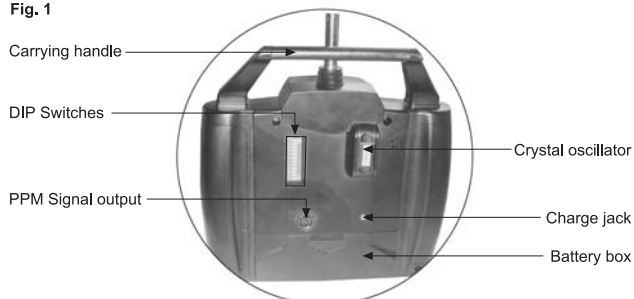
(MODE I - EUROPE & AUSTRALIA)



MODE II - NORTH AMERICA



Fig. 1



MODE I - EUROPE & AUSTRALIA

1. **Left stick / Rudder.** It controls your helicopter forward, backward, left, and right. Push up to fly your helicopter forward, pull down to fly backward, push leftward to fly left, and push rightward to fly right.
2. **Right stick / Throttle.** It controls your helicopter ascending, descending, left moving and right moving. Push up to ascend your helicopter; pull down to descend, push leftward to move your helicopter left, and push rightward to move right.

MODE II - NORTH AMERICA

1. **Left stick / Throttle.** It controls your helicopter ascending, descending, left, and right. Push up to ascend your helicopter, pull down to descend, push leftward to fly left, and push rightward to fly right.
2. **Right stick / Rudder.** It controls your helicopter forward, backward, left moving and right moving. Push up to fly your helicopter forward, pull down to fly backward, push leftward to move your helicopter left, and push rightward to move right.
3. **Throttle trim.** The throttle trim controls your helicopter to ascend and descend. Push up the trim to ascend, and pull down to descend.
4. **Aileron trim.** The aileron trim controls your helicopter leftward and rightward. Push the trim left and fly left, and push the trim rightward and fly right.
5. **Elevator trim.** It controls and modifies your helicopter forward and backward. Push up to fly forward, and pull down to fly backward.
6. **Rudder trim.** The trim controls and modifies your helicopter leftward and rightward. Move the trim left to fly leftward, and move right to fly rightward.
7. **Gear switch.** Convert the gear switch to fold or release the skid landing system. Switching the switch up is ON, and switching the switch down is OFF.
8. **Flight mode switch.** Convert the flight mode. Switching up is the normal flight mode, and switching down is the inverted flight mode.
9. **Exponential / PIT limit / Gyro sensitivity knob.** Under the help of DIP switches, all the functions can be switchable.
10. **Rudder mixing / Throttle curve / PIT knob.** Under the help of DIP switches, the knob can experience rudder mixing adjustment, throttle curve adjustment, and PIT adjustment.

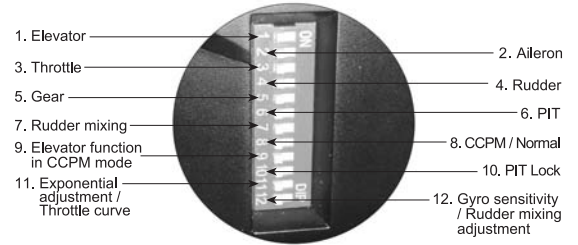
11. **Indicator.** Show the battery volume of the transmitter. Green LED on means the electricity is full; Green LED off means the electricity is not enough; Yellow LED off means the electricity is seriously short and the circuit will be automatically protected, and the flight is forbidden.

12. **Status LED.** LED flashes when turning on the transmitter; Light blue indicates to adjust PIT limit and PIT parameters; Orange indicates to adjust servo exponential and throttle curve; Dark blue indicates to adjust gyro sensitivity and rudder mixing parameters.

The Factory Default Settings for DIP Switches (Fig. 2):

Channel No.	ON/OFF	Channel No.	ON/OFF
1	ON	7	ON
2	OFF	8	ON
3	OFF	9	ON
4	ON	10	OFF
5	OFF	11	OFF
6	ON	12	OFF

Fig. 2 DIP switches

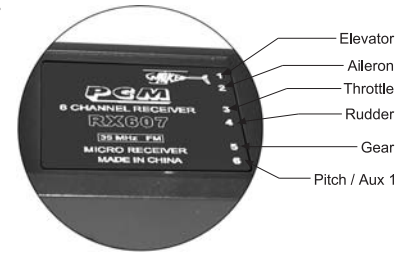


Receiver Identification

Receiver Identification (Fig. 3):

- ELEV:** Elevator, connect to elevator servo.
- AILE:** Aileron, connect to aileron servo .
- THRO:** Throttle, connect to speed controller .
- RUDD:** Rudder, connect to rudder servo.
- GEAR:** Gear, connet to gear servo.
- AUX 1:** Pitch / Aux 1, connect to pitech servo.

Fig. 3



PIT Lock and Adjustment

The transmitter provides the PIT and PIT limit adjustment functions and can lock the adjusted parameters as below:

- Put the No.10 DIP switch in the ON position and the status LED becomes light blue. Put the No.11 and 12 DIP switches in the OFF position. Circumrotate the V1, V2, which are individually marked on the top right and left knobs, to the 0 position.
- Tuning V1 to the "+" end increases the PIT value and tuning V1 to the "-" end decreases the PIT value.
- Tuning V2 to the "+" end increases the PIT limit value and tuning V2 to the "-" end decreases the PIT limit value.
- After the adjustment is finished, put the No.10 DIP switch to the OFF position and lock the adjusted PIT parameters.

Throttle Curve and Servo Exponential Function

Put the No.11 DIP switch on the ON position and No.10 & 12 in the OFF position. Circumrotate V1 and V2 to the 0 position.

Normal throttle curve adjustment: switch the 3D inverted flight switch to the normal flight mode. Tune V1 to the "+" end and move the throttle curve upward. The maximum range is 80% upward; tune V1 to the "-" end and move the throttle curve downward and the maximum range is 40% downward. Tune V1 to 0, the curve is linear (Fig. 4).

Inverted flight throttle curve adjustment: switch the 3D inverted flight switch to the 3D inverted flight mode. When tune V1 to 0 position, the curve is V-shape and the throttle center is at 60%. Tune V1 to the "+" end, and the curve moves up and its maximum range is 80%; tune V1 to the "-" end, the curve moves down and its minimum range is 40% (Fig. 5).

Servo exponential function: when tune V2 to 0 position, the curve is linear (Fig. 6); when tune V2 to the "+" end, the throttle curve will be changed in the form of exponential (Fig. 7). When tune V2 to the "-" end, the throttle curve will be changed in the form of negative exponential (Fig. 8).

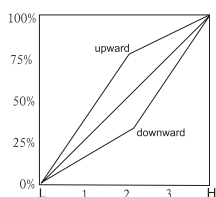


Fig. 4

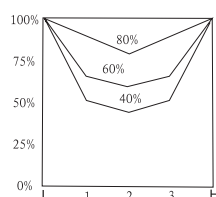


Fig. 5

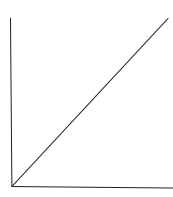


Fig. 6

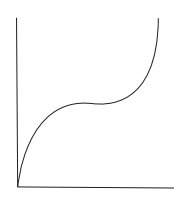


Fig. 7

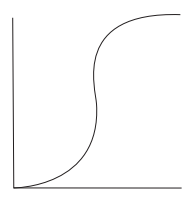


Fig. 8

Swashplate Adjustment

- Swashplate check.** Pull down the throttle stick and throttle trim to the lowest position, and put the elevator trim and aileron trim in the neutral position. Check whether the swashplate is in a horizontal level.
- Swashplate adjustment.** If the swashplate is not at the horizontal level, it can be adjusted via the following two steps: ① Adjustment of the servo and servo bell crank. Re-connect the battery cable to the main motor and wait several seconds for servo reposition, and then adjust all the angles of servo bell crank and ball linkage 1 of servo 2, servo bell crank and ball linkage 2 of servo 1 at 90 degrees (Fig. 9). ② Adjustment of the ball linkage 1 of servo 2 and the ball linkage 2 of servo 1. Adjust the length of the ball linkage 1 of servo 2 and the ball linkage 2 of servo 1 to make the swashplate parallel to the horizontal level (Fig. 9).

Fig. 9

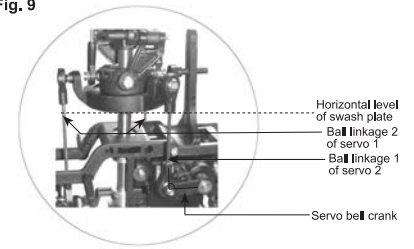
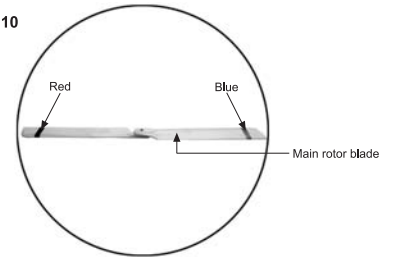


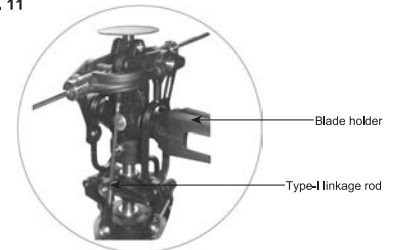
Fig. 10



The purpose of adjusting the main rotor blade is to correctly set up the collective pitch and to assure the main rotor blades are spinning at the same horizontal level.

- Color decal.** Two different colored blade tracking decals should be stuck on each blade tip (Fig. 10, red and blue).
- Main rotor blade inspection.** The purpose of inspecting the two blades is to keep them symmetrical in weight and shape. Screw the two blades and keep them in line.
- Blade tracking adjustment.** Before checking the blade tracking, please properly install the battery pack, initiate the gyro, and place a red stick on one blade tip. Place your helicopter on the reasonable level so that you can view the blades at your eye level. Please make sure you are in a safe distance to the high spinning blades. If the red blade is higher than the other one, please lengthen the length of the ball linkage of the other blade in one or more turn increments; otherwise, please shorten its length. The blade tracking and vibration will arise from looseness and/or distortion of the blade connector. If the blade connector is loose or distorted, please adjust or substitute new connector for the old one.

Fig. 11



Rudder Servo Adjustment

- Tail Servo Direction Adjustment.** Move the rudder stick in the transmitter left and right respectively, and inspect the tail servo direction. If the positive angle of the tail rotor blade increases by pushing up the Rudder Stick, the tail servo direction is correct (Fig. 12). Otherwise, please reverse the No. 4 DIP switch on the back of the transmitter.
- Rudder servo adjustment.** Adjust the rudder trim of the transmitter on the central position (Fig. 1). Inspect the movement range of the tail rotor sliding sleeve, and the angle between the rudder servo bell crank and the rudder servo pull rod. If the tail rotor sliding sleeve moves symmetrically left and right and the angle between the rudder servo bell crank and the rudder servo pull rod is 90 degrees (Fig. 13), the rudder servo stays at the proper situation; otherwise, please adjust the rudder servo and the length of the rudder servo rod. Firstly cut off the connection of the battery to the motor and unscrew the screw of the servo bell crank, and then plug in the connection. The rudder servo begins to reposition. Adjust the servo pull rod to the normal state, and then mount the bell crank and tighten the screw.

Fig. 12

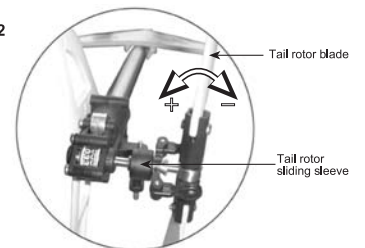
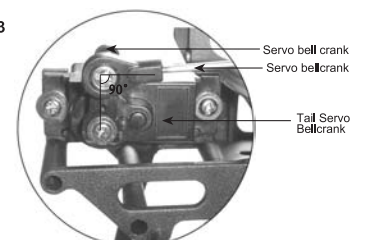
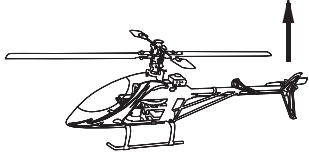
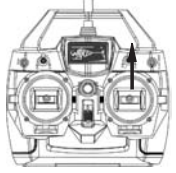
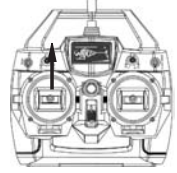
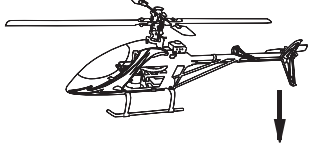
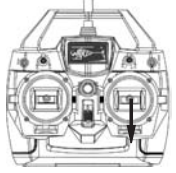
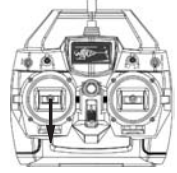
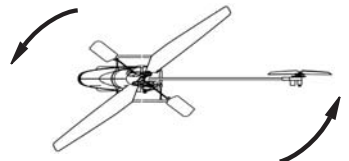
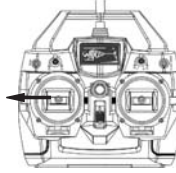
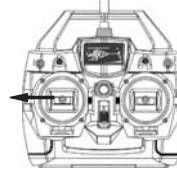
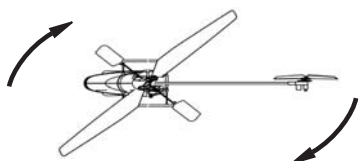
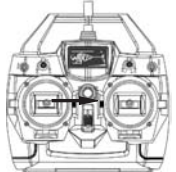

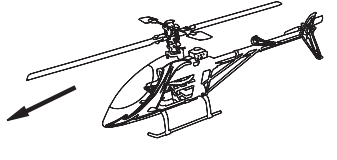
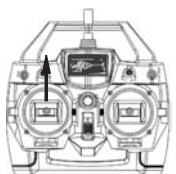
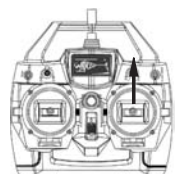
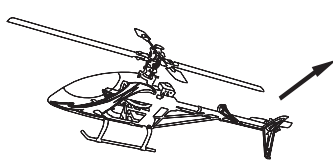
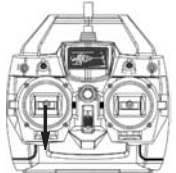
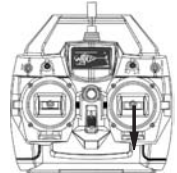

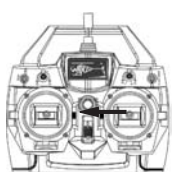
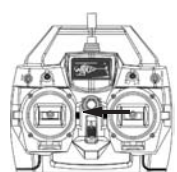

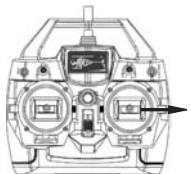
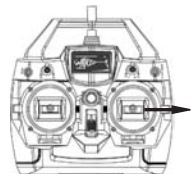
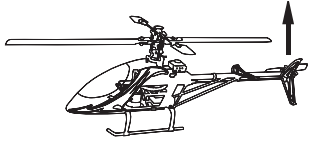
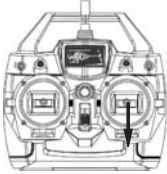
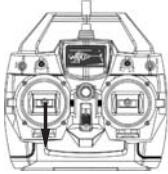
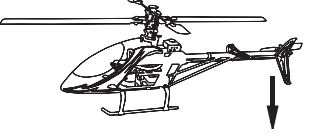
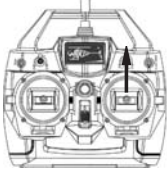
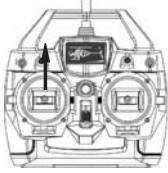
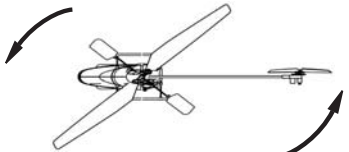
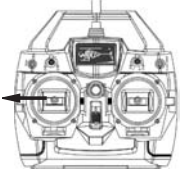
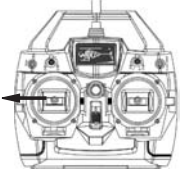
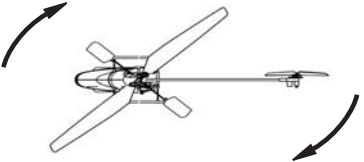
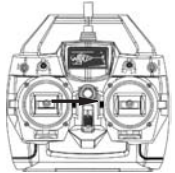
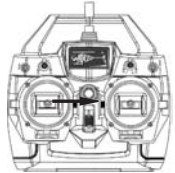
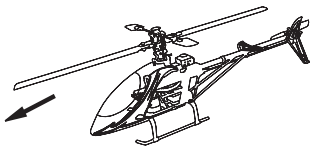
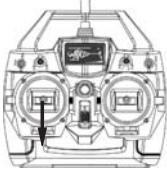
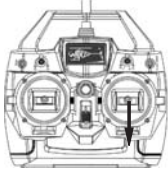
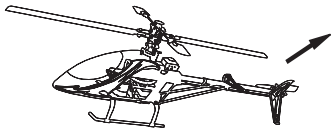
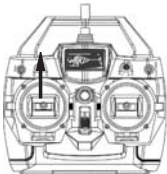
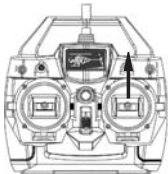

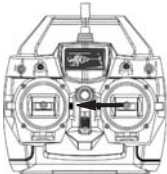
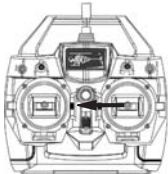

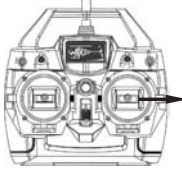
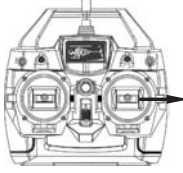


Fig. 13



Flight Mode

Normal Mode		(MODE I - EUROPE & AUSTRALIA)	MODE II - NORTH AMERICA	
ascending				throttle pushing up
descending				throttle pulling down
head turning left				rudder stick moving left
head turning right				rudder stick moving right
head forward				elevator stick pushing up
head backward				elevator stick pulling down
helicopter moving left				aileron stick moving left
helicopter moving right				aileron stick moving right

Inverted Flight Mode		(MODE I - EUROPE & AUSTRALIA)	MODE II - NORTH AMERICA	
ascending				throttle pushing up
descending				throttle pulling down
head turning left				rudder stick moving left
head turning right				rudder stick moving right
head forward				elevator stick pushing up
head backward				elevator stick pulling down
helicopter moving left				aileron stick moving left
helicopter moving right				aileron stick moving right



R/C WALKERA PRODUCT

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