

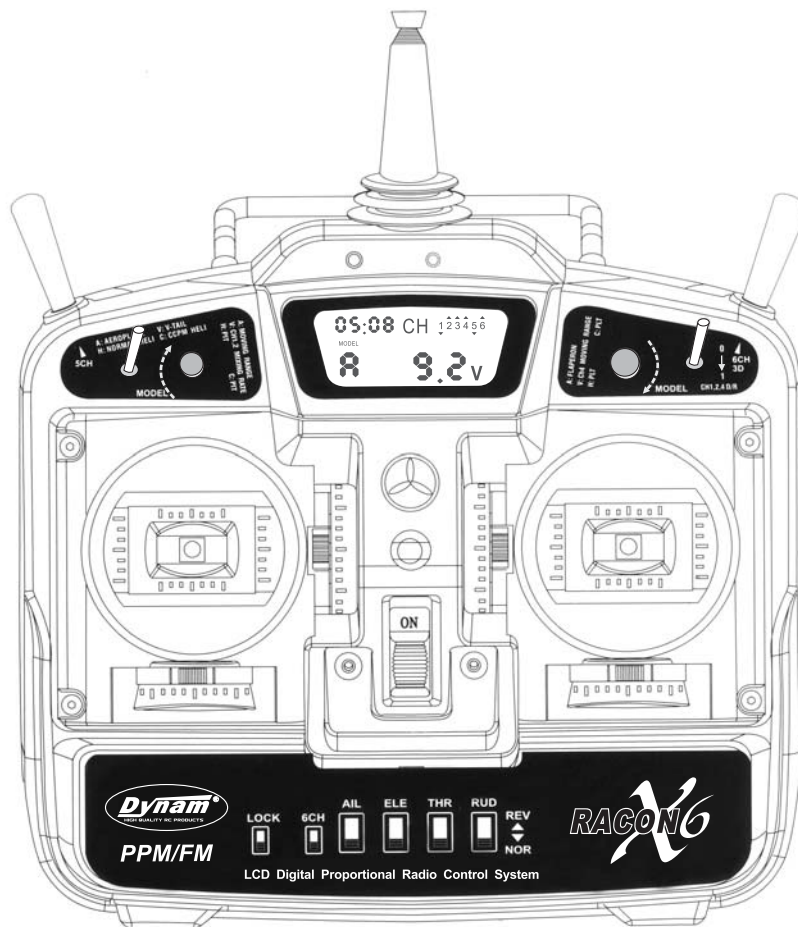


# Operating Manual for LCD DIGITAL PROPORTIONAL RADIO CONTROL SYSTEM

## RACON 6



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Thanks for purchasing RACON X6 radio control set. For safe use, please read this manual before using carefully. Any damage or loss to radio control set and model due to improper use will not be shouldered by norem Machi.

## Function of Transmitter

RACON X6 is a newly developed 6 channel proportional transmitter with four flying mode installed: A(aeroplane mode);V(V tail mode);C(CCPM helicopter mode);H(helicopter mode) The switch between each mode is very convenient. There is a reverse switch for Ch1, CH2,CH4 and Ch6 separately. The LCD on the transmitter can show voltage of transmitter, channel status, flying mode and flying time. It has a function of auto-alarm for low voltage.

## Specifications

Type: RACON X6

Channels: 6 channels

Modulation: FM-PPM

Signal Power: <750mW

Working Current: <250mA

Voltage Indicator: LCD

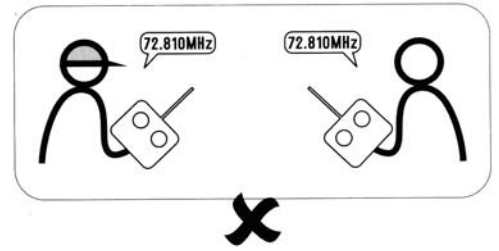
Flying Mode: A/V/H/C

Work Frequency: 72M

Working Voltage: 12V 5#AAA dry battery or 9.6V Ni-MH Battery Pack

## Notice for flying

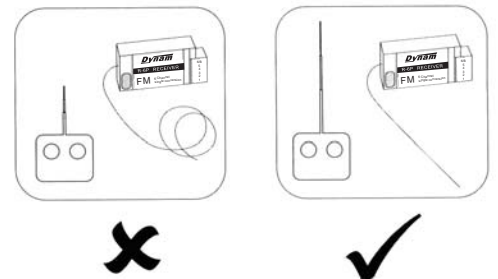
Please do not fly in the same area with similar frequency, or that can cause crash.



Please do not fly in the rain or strong wind. The water can sink into the transmitter which can cause out of control, leading to crash.

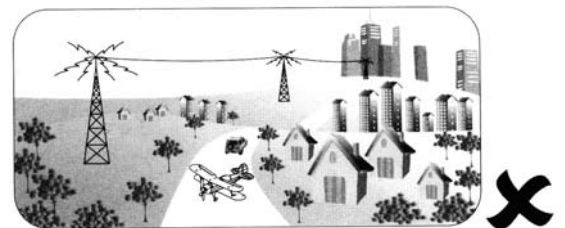


The shortened antenna may cause the short range of signal, please pull the antenna to the end. Please straighten the wire of receive.





Please note before using, test the radio set first and any change to the radio set or model car cause crash.

Please do not fly near housing, road, airport or power line.



Indications of special signs

please pay more attention to signs in this manual and safety while using

Show	Logo	Meanings
WARNING		I improper operation may cause injury or hurt
CAUTION		I improper operation may cause injury or hurt

### Storage note

- ▲ Please do not place the radio control set in the below situation:
  - hot or cold ( $60^{\circ}\text{C}$  above or  $-10^{\circ}\text{C}$  below)
  - under the sunshine long time
  - moist condition
  - dusty place
  - vibration condition
- ▲ Long time without using, please pick up batteries from the bay and store in the dry condition.
- ▲ It is forbidden to clean the radio control set with chemical solvent such as acetone.
- ▲ The over used dry batteries can not be dispatched anywhere. That should be stored in a non-metal tool and dispatched by environment-protection department.
- ▲ It is strongly recommended to use chargeable battery for the transmitter with the hope of environment-protection and cost-reducing.

### Notice for using

While opening the transmitter, the joystick for throttle should be on idle; only opening the transmitter can connect the power to model.

In order to close the transmitter, the joystick for throttle should be on idle. Disconnect the power of model, and close the transmitter. The propeller may cause damage if improper operation.

Stop the motor while transmitter adjustment. Please pay attention to the motor during adjustment. It is better to use transmitter, receiver etc, together from norem machi.

Please do not do any change to transmitter, or that can affect transmitter's function.

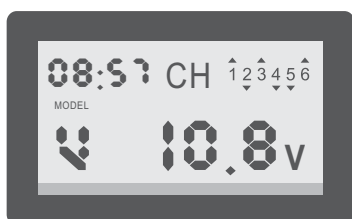
## Description of four flying modes

RACON X6 with four flying mode installed: A(aeroplane mode);V(V tail mode);C(CCPM helicopter mode);H (helicopter mode) the switch between each mode is very convenient. There is a reverse switch for CH1,CH2,CH4 and Ch6 separately. The LCD on the transmitter can show voltage of transmitter, channel status, flying mode and flying time. It has a function of auto-alarm for low voltage.



### A: Airplane

1. The ranges of CH1,CH2 and CH4 of servos can be adjusted by tiny mix1 in order to adjust for different aerobatics.
2. The function of CH1,CH2,CH4 small angel and large angle can changed by switch 3.
3. The mixture function of CH1 and ch6 can be achieved by switch 2.
4. there is a isolated channel 1 for landing gear and that function can be achieved by switch 1
5. reverse switch for ch1,ch2,ch3,ch4 and ch6
6. lock and unlock function. when every change data is settled, the situation can be saved with lock function and every change will be no accepted.
7. alarm for low voltage: when voltage of battery is under 8.5v, the red led will flash and when under 7.5v, LCD will close.



### V: v tail mode

1. The mixture function of ch1 and ch6 can be achieved by switch 1.
2. the range of servo for ch4 can be changed by tiny mix 2.
3. The function of ch1,ch2,ch4 small angel and large angle can be changed by switch 3.
4. there are two isolated switch channel ch5 and ch6. and collapsable landing gear as well as photo-taking can be achieved by switch channel 1 and 2.
5. reverse switch for ch1,ch2,ch3,ch4 and ch6.
6. lock and unlock function. when every data is settled, the situation can be saved with lock function and every change will be not accepted.
7. alarm for low voltage: when voltage of battery is under 8.5v, the red LED will flash and when under 7.5v, LCD will close.



### H:helicopter mode

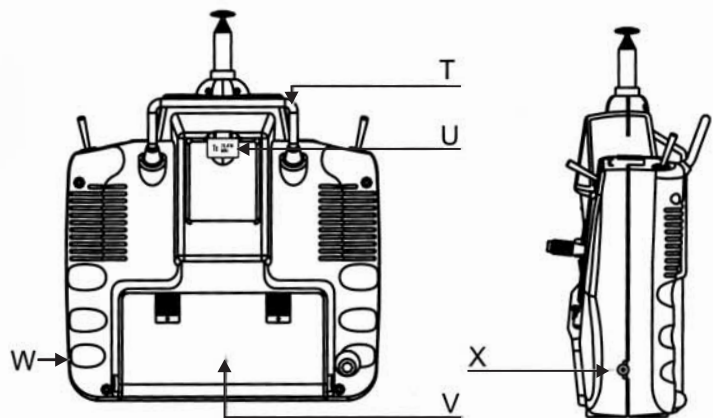
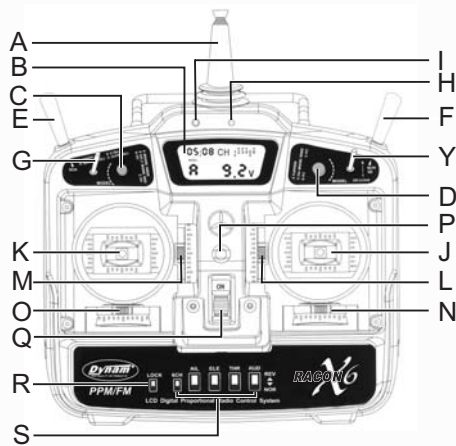
1. pit and plt can be adjusted by tiny mix 1 and 2.
2. the function of ch1,ch2,ch4 small angle and large angle can be changed by switch 3.
3. there is a switch for the function of gyro and can be switched between normal mode and head lock mode by switch 1.
4. the switch 2 is settled for 3D diverted flight.
5. reverse switch for ch1,ch2,ch3,ch4 and ch6.
6. lock and unlock function. when every data is settled, the situation can be saved with lock function and every change will be not accepted.
7. alarm for low voltage: when voltage of battery is under 8.5v, the red LED will flash and when under 7.5v, LCD will close.



### C:CCPM helicopter model

1. The mixture function of ch1,ch2,ch3 and ch6 can be achieved for CCPM helicopter. pit and plt can be adjusted by tiny mix 1 and 2.
2. The function of ch1,ch2,ch4 small angel and large angle can be changed by switch 3.
3. there is a switch for the function of gyro and can be switched between normal mode and head lock mode by switch 1.
4. the switch 2 is settled for 3D diverted flight.
5. reverse switch for ch1,ch2,ch3,ch4 and ch6.
6. lock and unlock function. when every data is settled, the situation can be saved with lock function and every change will be not accepted.
7. alarm for low voltage: when voltage of battery is under 8.5v, the red LED will flash and when under 7.5v, LCD will close.

## Transmitter particular introduce



A: Antenna

B: LCD(Liquid Crystal Display)

- 1)To indicate the battery voltage of transmitter.
- 2)To show the situation of channels whether it is reversed.
- 3)To show the flying time.
- 4)To indicate flying mode.
- 5)To indicate the status of lock and unlock.

C: Tiny Mix 1

D: Tiny Mix 2

E: Switch 1

this switch is for ch5 that can be used for aerial camera, collapsible landing gear and shift between gyro mode and gain, etc.

F: Switch 2

G: Flying mode switch

when the lock switch is on adjust, it is can be adjusted to A/V/H/C Flying mode.

H: LED indicator for power

I: Red LED indicator for low voltage: when battery is under 8.5v, the LED will have a flash alarm; the LCD will cut off when voltage is under 7.6v.

Note: when red LED flashes or nothing shows on LCD, please change the battery in order to avoid flying out of control.

J: Joystick

- 1)if the transmitter is model 1, ch1 is for aileron and ch3 for throttle.
- 2)if the transmitter is model 2, ch1 is for aileron and ch2 for rudder.

K: Joystick

- 1)if the transmitter is model 1, ch2 is for elevator and ch4 for rudder.
- 2)if the transmitter is model 2, ch3 is for throttle and ch4 for rudder.

L: Tiny mix for channels

- 1)if the transmitter is model 1, it is for ch3.
- 2)if the transmitter is model 2, it is for ch1.

M: Tiny mix for channels

- 1)if the transmitter is model 1, it is for ch1.
- 2)if the transmitter is model 2, it is for ch3.

N: Tiny mix for aileron

O: Tiny mix for rudder

P: Flying ring

Q: Switch for power

R: Lock switch

when the switch is on lock status, all are locked, including switch for flying mode, tiny mix 1, and tiny mix 2 when the switch is on adjust status, all can be changed, including flying mode, tiny mix 1 and tiny mix 2.

S: ch1, ch2, ch3, ch4, ch6 reversed switched for changing the turning of servo, up for reversed and down for normal. REV: reversed NOR: normal

T: steel handle

U: tx crystal

V: battery bay for transmitter

W: plug for simulator

X: rechargeable plug (note: only 9.6v Ni-mh battery pack can be recharged)

Y: Switch 3

the switch is to change the turning the turning range of servos (100%/70%) for ch1, ch2, ch4. when it is 0, it means the turning range of servos is 100%. When it is 1, it means the turning range of servos is 70%.

## Receiver

Type: FM  
 Channel: 6 Channel  
 Include BAT: 1.5\*2A\*4cell  
 Demodulation type: frequency demodulation  
 Intermediate frequencyS:455KHZ  
 Frequency:72MHz/35MHz/36MHz/40mhz/  
 Weight:8.8g  
 Dimensions:34\*18\*10mm  
 Current Drain:13mA  
 COLOR:Black  
 ANT Length:100cm  
 Certificate:CE,FCC



The 6 Channel receiver is perfect for Collective Pitch flight. Very resistant to interference and works well with other electronics in close distance.

### ① Crystal

The Crystal is replaced from the side of the receiver

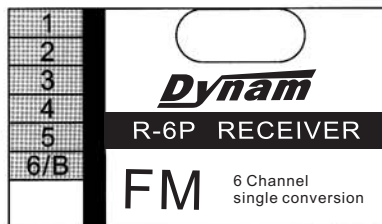
### ② Output / Battery connector

- |                            |                         |
|----------------------------|-------------------------|
| 1: Aileron Servo (ch1)     | 2: Elevator Servo (ch2) |
| 3: Throttle Servo (ch3)    | 4: Rudder Servo (ch4)   |
| 5: landing Gear/Gyro (ch5) | 6: Flaperon/Pitch (ch6) |
| B: Battery Connector       |                         |

## Function

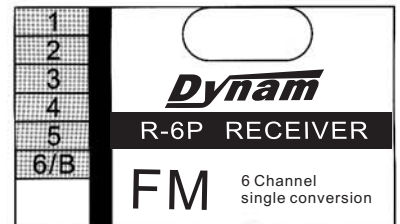
### Operation for airplane

Ch1: Aileron  
 Ch2: Elevator  
 Ch3: Throttle  
 Ch4: Rudder  
 Ch5: Landing gear  
 Ch6: Flaperon



### Operation for helicopter

Ch1: Aileron  
 Ch2: Elevator  
 Ch3: Throttle  
 Ch4: Rudder  
 Ch5: Gyro gain  
 Ch6: pitch

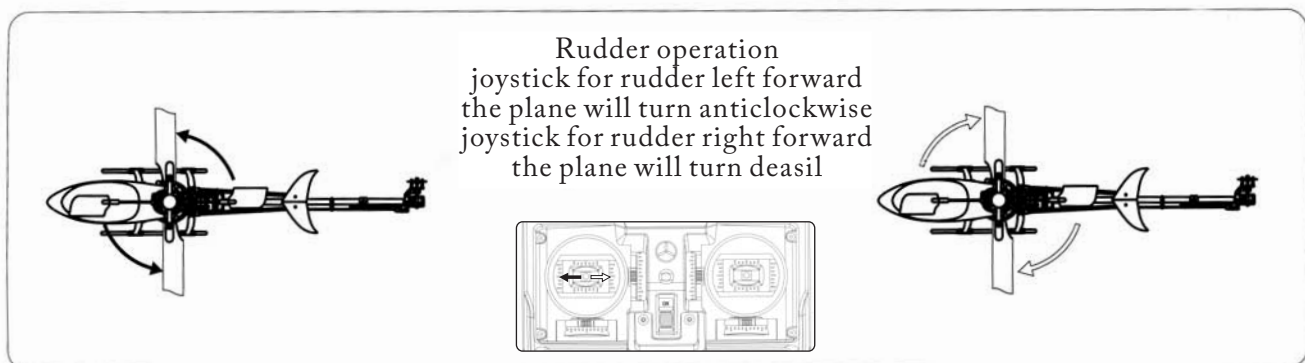
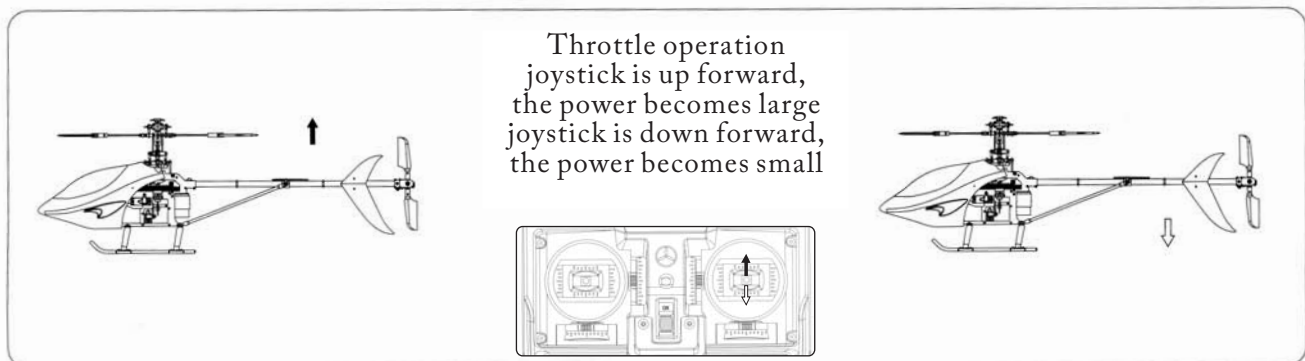
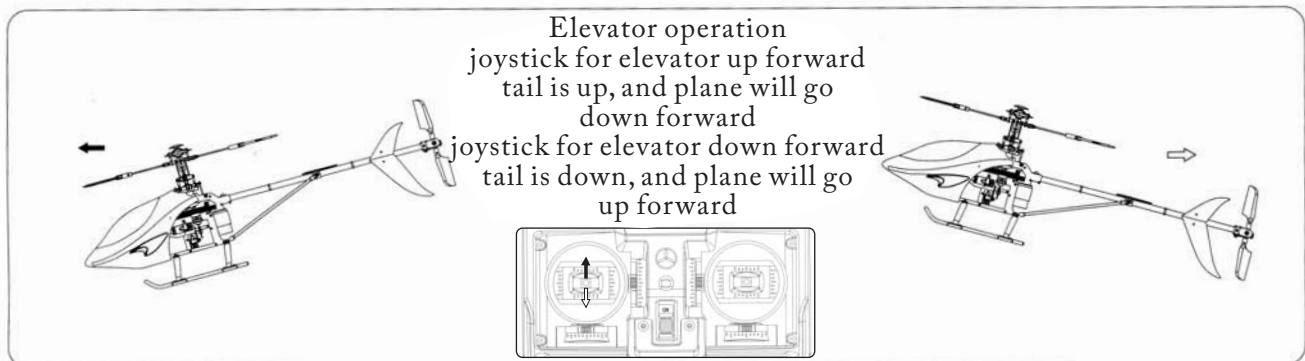
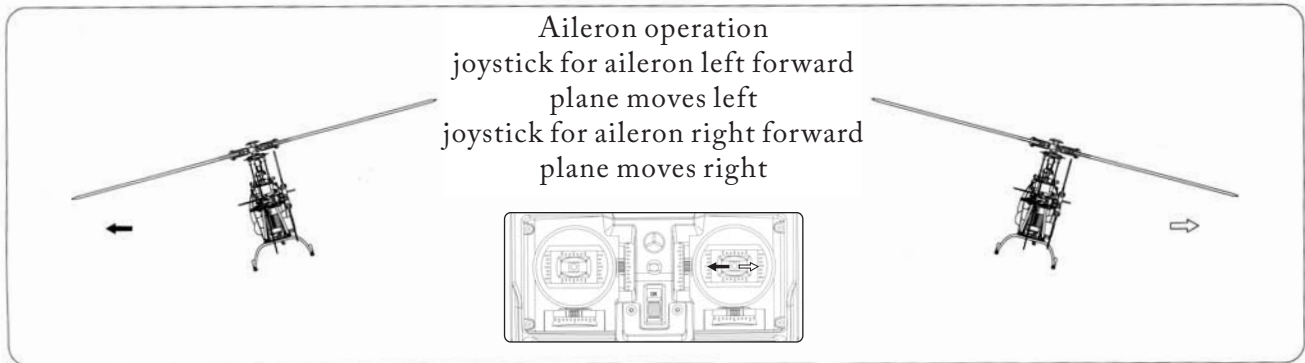




## Operation for transmitter and servo

### Operation for helicopter (mode 1)

Before adjusting, please be familiar with transmitter operation and servo (Before description in case of all neutral)

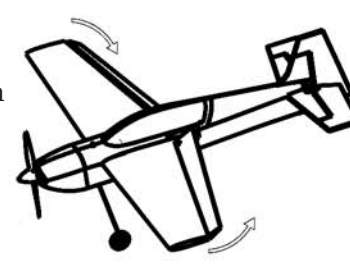
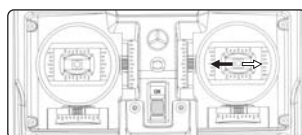
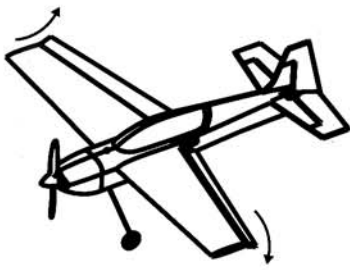


## Operation for transmitter and servo

### Operation for airplane (mode 1)

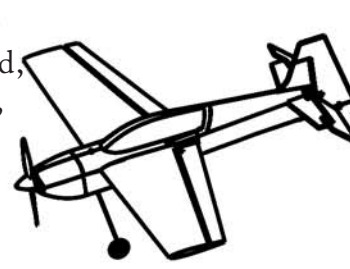

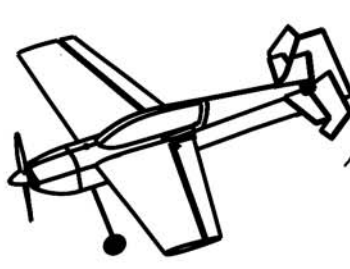
Before adjusting, please be familiar with transmitter operation and servo (Before description in case of all neutral)

Aileron operation  
joystick for aileron right forward  
the right aileron up and left aileron  
down and vice versa



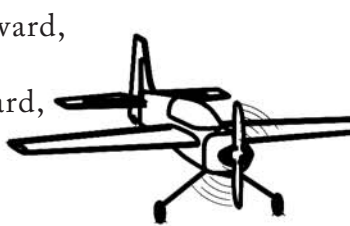
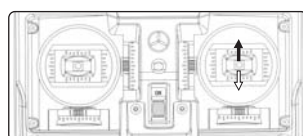
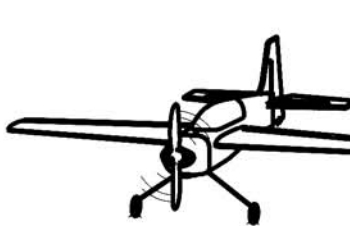
The diagram shows a top-down view of an airplane. On the left, the right aileron is shown moving upwards and the left aileron downwards, indicated by curved arrows. On the right, the left aileron is shown moving upwards and the right aileron downwards, also indicated by curved arrows. The central transmitter diagram shows the left joystick with a horizontal double-headed arrow pointing to the right, indicating the stick is moved forward.

Elevator operation  
climb up forward operation  
joystick for elevator is down forward,  
the elevator is up, and tail is down,  
then the plane will climb up,  
and vice versa



The diagram shows a top-down view of an airplane. On the left, the elevator is shown moving upwards and the tail downwards, indicated by curved arrows. On the right, the elevator is shown moving downwards and the tail upwards, also indicated by curved arrows. The central transmitter diagram shows the left joystick with a vertical double-headed arrow pointing upwards, indicating the stick is moved forward.

Operation for throttle  
joystick for throttle is down forward,  
the power becomes small  
joystick for throttle is up forward,  
the power becomes large


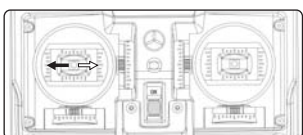
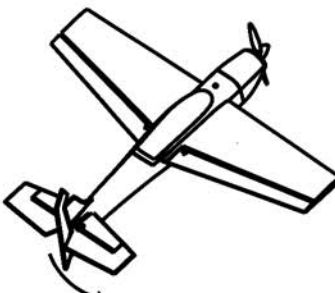


Running

Stop

The diagram shows a front view of an airplane. On the left, the propeller is shown in motion with curved arrows, labeled "Running". On the right, the propeller is shown stationary, labeled "Stop". The central transmitter diagram shows the right joystick with a vertical double-headed arrow pointing upwards, indicating the stick is moved forward.

Operation for rudder  
joystick for rudder right forward,  
rudder is right forward  
and the plane will turn  
right and vice versa.



The diagram shows a top-down view of an airplane. On the left, the rudder is shown moving to the right, indicated by a curved arrow. On the right, the rudder is shown moving to the left, also indicated by a curved arrow. The central transmitter diagram shows the left joystick with a horizontal double-headed arrow pointing to the right, indicating the stick is moved forward.

## Adjustment order

Open the battery bay, and range the 8 cells AAA battery into the battery bay, then close the bay. Before adjustment, change the reverse switch to the lower position(nor). Open the transmitter and the receiver, and do the following steps:

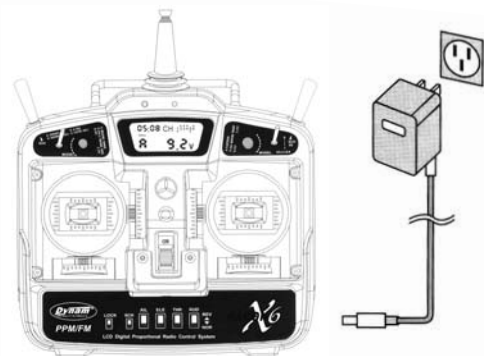


1. check every servo's movement and make sure every movement of control arms and servo arms is correct if not, please change the switch for reverse.
2. check the centering position of aileron, elevator and rudder  
open the transmitter and connect the power to motor. Make sure every servo is in centering position and check servo arm has a 90 degree angle with servo. Adjust the length of control rod, and check all control arm is in neutral position.
3. adjustment for range  
check the movement range and the centering position of each servo. If the traveling range is not accepted, that can be adjusted by the position of clevis on the servo arm.
4. check the connection of esc and motor.  
Check the joystick for throttle movement is in accordance with motor. If not, it can be adjusted by reverse switch.
5. check the tiny mix for every control horn.

## Charge method of battery

Charge method:

1. turn off the transmitter, connect the transmitter with the charger in kits  
(note: please make sure the transmitter be off before charging, it will not be charged unless it is off)
2. check if the input voltage is same as the main voltage, plug the charger into the socket.
3. the charging time should be no more than 5 hours, it should be recharged if it has been unused in long time.



Remark:

1. only the 9.6v Ni-hi rechargeable battery can be charged, the dry cell should not be charged.
2. order to prolong the life of battery, please do not charge more than the required time.

## Explanation for technical words

### Here are some technical words used in this Manual

**Aileron** : Either of two movable flaps on the wings of an airplane that can be used to control the plane's rolling and banking movements.

**Elevator** : A movable control surface, usually attached to the horizontal stabilizer of an aircraft, that is used to produce motion up or down.

**Rudder** : A similar structure at the tail of an aircraft, used for effecting horizontal changes in course.

**Throttle** : A valve that regulates the flow of a fluid, such as the valve in an internal-combustion engine that controls the amount of vaporized fuel entering the cylinders.  
(For electronic plane, it can adjust the currency)

**Channel** : that means the quantity of isolated operation, and also can indicate the number of servos.

**Joystick** : a stick that can be used to control operation on the transmitter.

**Proportional Radio** : the servo is controlled by that radio and the servo arms can move proportionally and this kind of radio can be called proportional radio.

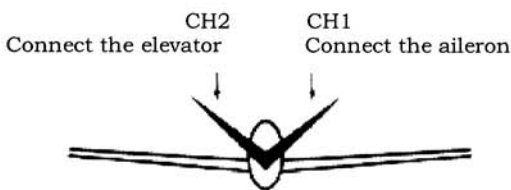
**Modulation Mode** : Usually there are two modulation mode in radio control system : AM and FM. Normally FM is choosed for model plane. As well , there are two mode in signal code Communication : PPM and PCM.

**Neutral** : Without operation, joysticks in the center position and the servo arm will come to center.

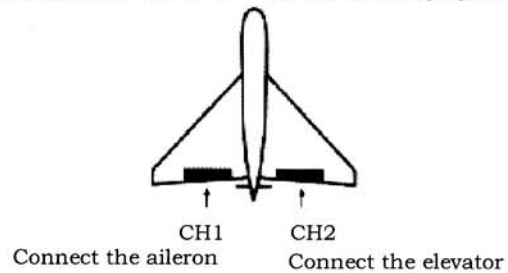
**Control Horn** : a pole that can connect the servo and control set.

**Servo Arm** : a part of servo, and it can transit the servo movement to the control horn. With many shpaes, and it should be fixed to the servo by screw.

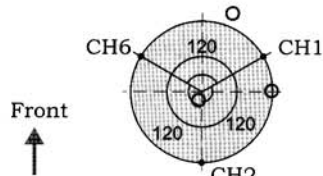
**V tail mixer**: see the following figure



**Triang wing mixer**: see the following figure



**CCPM Mode**: The helicopter pitch is controlled by three servos combined



**Aileron Action**: Servos for CH1 and CH 6 move in opposite direction synchronously, and the inclined tray set moves rightward and leftward.

**Elevator Action**: Three servos move in same space, the inclined tray set move backward and frontward.

**Pitch Action**: Three servos move in the same direction synchronously, and the inclined tray set moves upward and downward horizontally.