

DIGITAL PROPORTIONAL RADIO CONTROL SYSTEM

4 CHANNEL

2.4GHz *ds*m

E-FLYTM
ETB41-2.4GHz



R/C SYSTEM OPERATING MANUAL

ART-TECH.com
R/C HOBBY

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Thank you for purchasing the E-Fly ETB41-2.4GHz Digital Proportional Radio Control System. Before you operate this unit, please read and keep this manual carefully. Please comply the proper procedures strictly, user must be responsible for the damages of radio system and model or other loss caused by incorrect operation.

PACKAGE LIST

Transmitter	E-Fly TX100-B	1 pc
Receiver	E-Fly RX100-C	1 pc
Servo	AS-100(9 gram)	1 pc
Speed controller	ESC-30(30A)	1 pc

Great Features:

- Fully proportional
- Servo reverse function
- Trainer port available
- High quality joystick
- Low voltage alarm
- FM modulation

PRECAUTIONS FOR KEEPING

- Do not store the radio system in the damp, dusty and vibratory place, temperature over 40°C or under -10°C and direct sunlight for long time.
- If there is a long time not for use, please take the battery out from the transmitter and keep it in the dry place.
- Forbid to wipe the radio system with the organic liquor such as thinner, acetone and chloroform.
- Do not throw away the using up batteries, please keep them in the metalloid container and transfer them to the environmental conservation institution.
- On purpose of environmental conservation and low using cost , we suggest you use the rechargeable Ni-MH battery.

MEANING OF SPECIAL MARKINGS

Pay special attention to the safety at the parts of this manual that are indicated by the following marks.

MARK		MEANING
DANGER	⚠	Procedures which may lead to a dangerous condition and cause death or serious injury to the user if not carried out properly.
WARNING	!	Procedures which may lead to dangerous condition or cause death or serious injury to the user if not carried out properly, or procedures where the probability of superficial injury or physical damage is high.

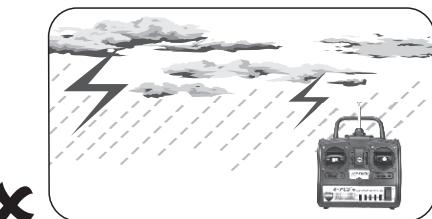
CAUTION Procedures where the possibility of serious injury to the user is small, but there is a danger of injury, or physical damage, if not carried out properly.

Symbol:  Prohibited  Mandatory

PRECAUTIONS DURING FLIGHT

WARNING!

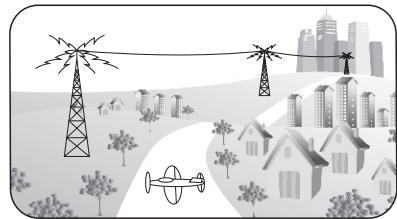
Do not fly in rainy or windy days, or at night. Water will penetrate into the transmitter and cause faulty operation, or loss of control, and cause a crash.



changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

Always test the digital proportional R/C set before use. Any abnormality in the digital proportional R/C set, or model, may cause a crash. Before starting the engine, check that the direction of operation of each servo matches the operation of its control stick. If a servo does not move in the proper direction, or operation is abnormal, do not fly the plane.

 Do not fly the plane near the house, road, electrical wire and airport.



MANDATORY ITEMS

When turning on the power switch

After setting the transmitter throttle stick to minimum:

1. Turn on the transmitter power switch.
2. Then turn on the receiver power switch.

When turning off the power switch

After stopping the engine:

1. Turn off the receiver power switch.
2. Then turn off the transmitter power switch.

TRANSMITTER

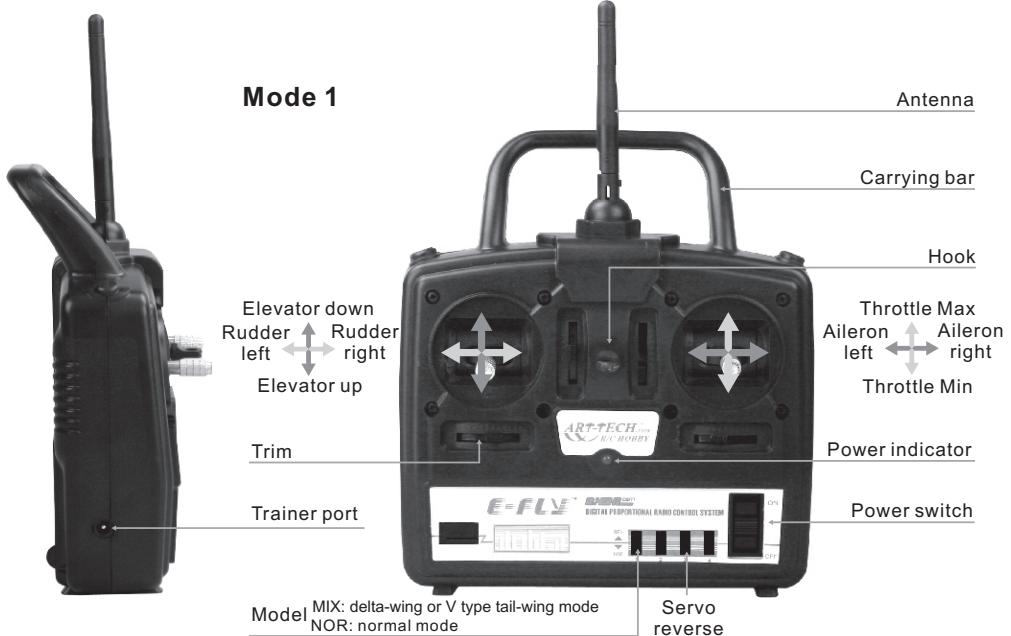
- We offer Mode I and Mode II two types of transmitter for selection. Customers should choose one according to their individual needs.
- You will need 8 AAA batteries for operating the transmitter.



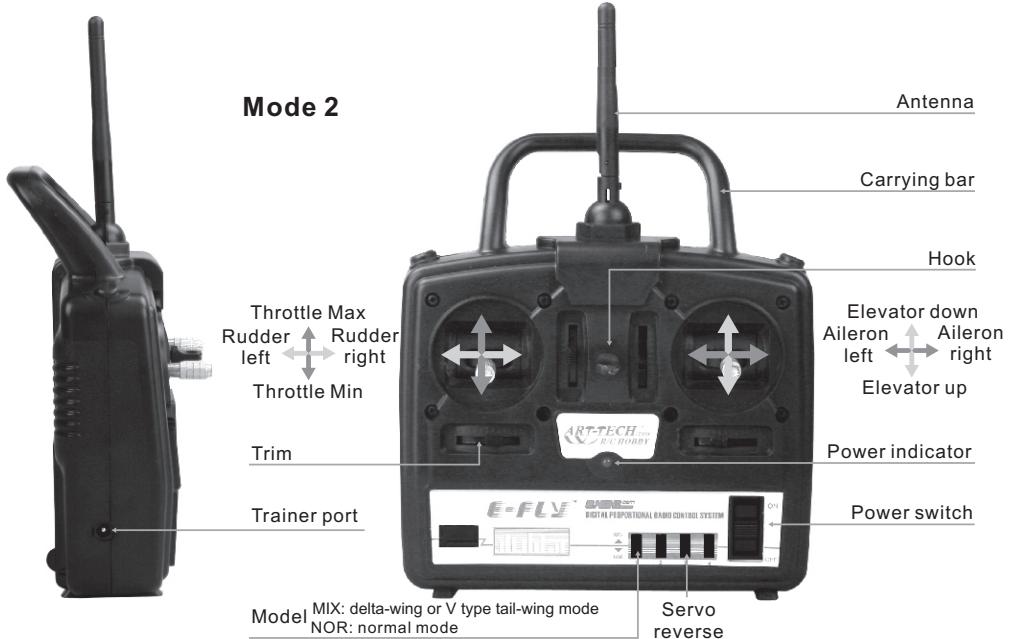
Low battery voltage alarm function.

The transmitter will emit a high-pitched tone if the battery voltage gets too low.

Mode 1



Mode 2



- Servo reversing switches
- If the direction of servo operation is not the same as the model, adjust the reversing switches to reverse the direction.

The lower position is the normal setting and the upper position is the reverse setting.

Channel display

Ail.: Aileron (CH1)
 ELE.: Elevator (CH2)
 THR.: Throttle (CH3)
 RUD.: Rudder (CH4)

- Working modes' option
 MIX: delta-wing or V type tail-wing mode
 NOR: normal mode
- Operating direction display
 REV.: Reverse setting
 NOR.: Normal setting

Stick lever spring tension adjustment

The stick spring tension can be adjusted. The operating feel of the aileron, elevator, and rudder sticks can be individually adjusted.

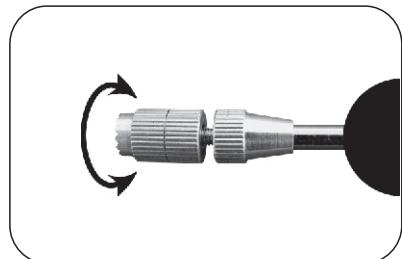
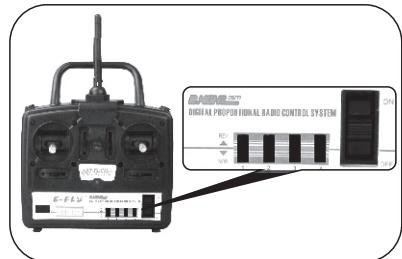
- Remove the four transmitter rear case screws and remove the rear case.
- Adjust the spring strength by turning the screw of the channel you want to adjust.
- Close the rear case and tighten the four screws.
- Stick length adjustment.
- Turn the head of stick.

• TRAINER JACK

Connects the trainer cord when using the trainer function (The trainer cord is sold separately), see part 8 for the details of the trainer function.

• BATTERY COVER

Use when replacing the battery. Slide the cover downward while pressing the part marked □ PUSH □



RECEIVER

With E-FLY ER61-2.4GHz receiver, the max range is 1000 feet (350m) in the air, suitable for small park flyer type model plane



TRANSMITTER OPERATION AND MOVEMENT OF EACH SERVO

Before making any adjustments, learn the operation of the transmitter and the movement of each servo. (In the following descriptions, the transmitter is assumed to be in the standby state.)

AILERON OPERATION

When the aileron stick is moved to the right, the right aileron is raised and the left aileron is lowered, relative to the direction of flight, and the plane turns to the right. When the aileron stick is moved to the left, the ailerons move in the opposite direction.



ELEVATOR OPERATION

When the elevator stick is pulled back, the tail elevator is raised and the tail of the plane is forced down, the airflow applied to the wings is changed, the lifting force is increased, and the plane climbs (UP operation). When the elevator stick is pushed forward, the elevator is lowered, the tail of the plane is forced up, the air flow applied to the wings is changed, the lifting force is decreased, and the plane dives (DOWN operation).



THROTTLE OPERATION

When the throttle stick is pulled back, the engine throttle lever arm moves to the SLOW (low speed) position. When the throttle stick is pushed forward, the throttle lever arm moves to the HIGH (high speed) position.



RUDDER OPERATION

When the rudder stick is moved to the right, the rudder moves to the right and the nose points to the right, relative to the direction of flight. When the rudder stick is moved to the left, the rudder moves to the left and the nose points to the left and the direction of travel of the plane changes.



ADJUSTMENTS

The operating direction, neutral position, and steering angle of each servo are adjusted.

ADJUSTMENT PROCEDURE

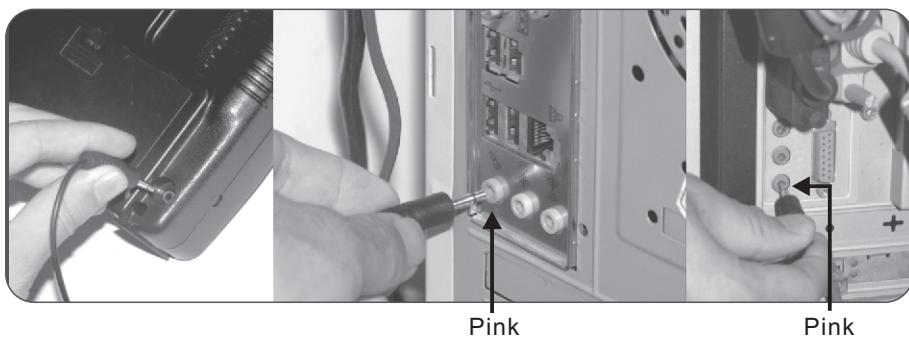
Before making any adjustments, set all the SERVO REVERSER switches on the front of the transmitter to the lower (NOR) position. (Switch the switches with a small screwdriver, etc.) Turn on the transmitter and receiver power switches and make the following adjustments:

1. Check the direction of operation of each servo. If a servo operates in the wrong direction, switch its SERVO REVERSER switch. (The direction of operation can be changed without changing the linkage.) * Note that the direction of the aileron servo is easily mistaken.
2. Check the aileron, elevator, and rudder neutral adjustment and left-right (up-down) throw. Check that when trimmed to the center, the servo horn is perpendicular to the servo and check the neutral position of the fuselage control surfaces (aileron, elevator, rudder, etc.). If the neutral position has changed, reset it by adjusting the length of the rod with the linkage rod adjuster. When the throw is unsuitable (different from steering angle specified by the kit instruction manual), adjust it by changing the servo horn and each control surface horn rod.
3. Check the engine throttle (speed adjustment) linkage. Change the servo horn installation position and hole position so that the throttle is opened fully when the throttle stick is set to HIGH (forward) and is closed fully when the throttle stick and throttle trim are set for maximum slow (backward position and lower position, respectively).
4. After all the linkages have been connected, recheck the operating direction, throw, etc. *Before flight, adjust the aircraft in accordance with the kit and engine instruction manuals.
5. Fly the plane and trim each servo.

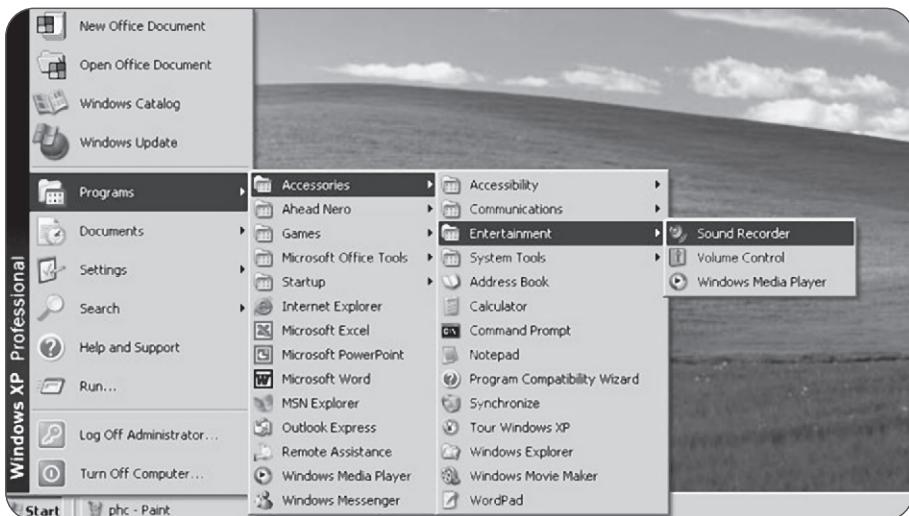
FLIGHT SIMULATION SYSTEM INSTRUCTION

System requirements: above windows 2000

1. Flight simulation system includes: one CD, one audio cable, and one operation manual.
2. Please insert the appropriate end of the supplied cable to your transmitter, and the other end to the MIC port.

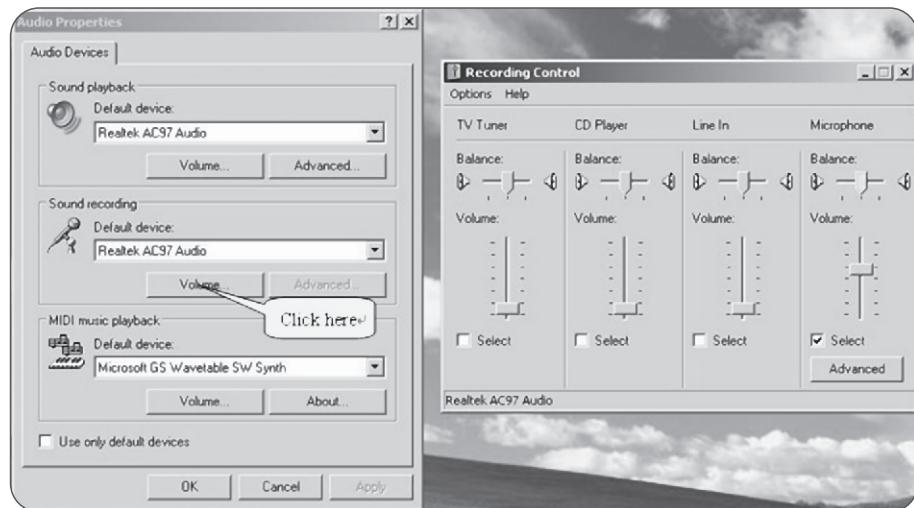


3. Click "Start / Programs / Accessories / Entertainment / Sound Recorder" to open the Sound Recorder. Then click "Edit / Audio Properties" to open Audio Properties.

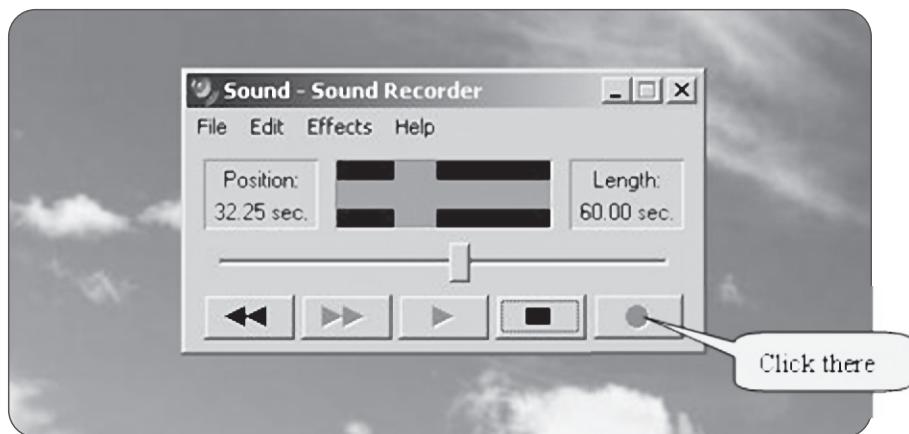




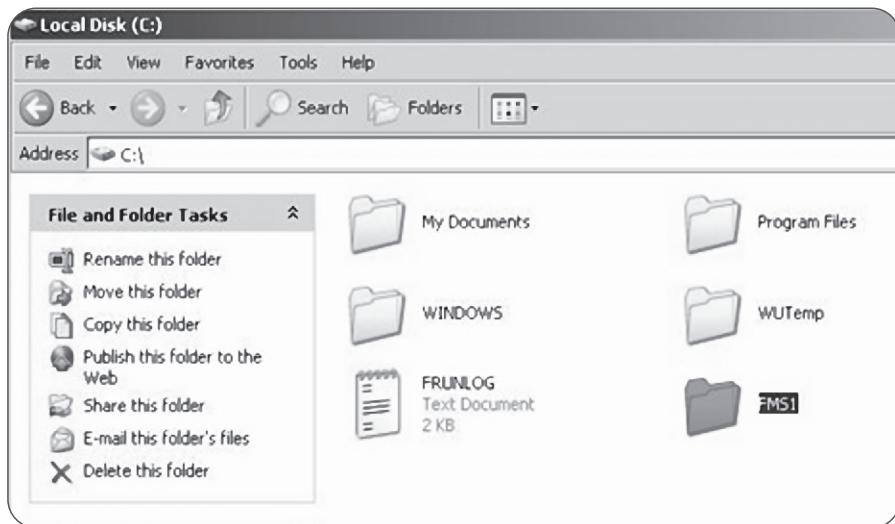
4. Click "Volume...", and choose the MIC, and adjust the volume to about 2/3 of full volume. Then click and to exit.

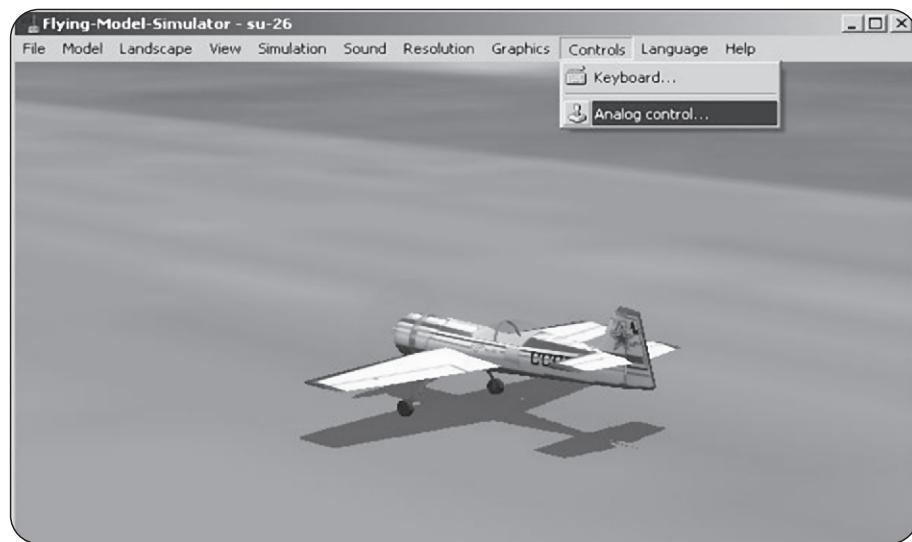


5. Click on the record button,(following the fig.) switch on the transmitter, and record the signal of the transmitter to make sure all connections are correct. If everything is working properly you should see the wave pattern of the transmitted signal. If not, check the connections and audio settings.



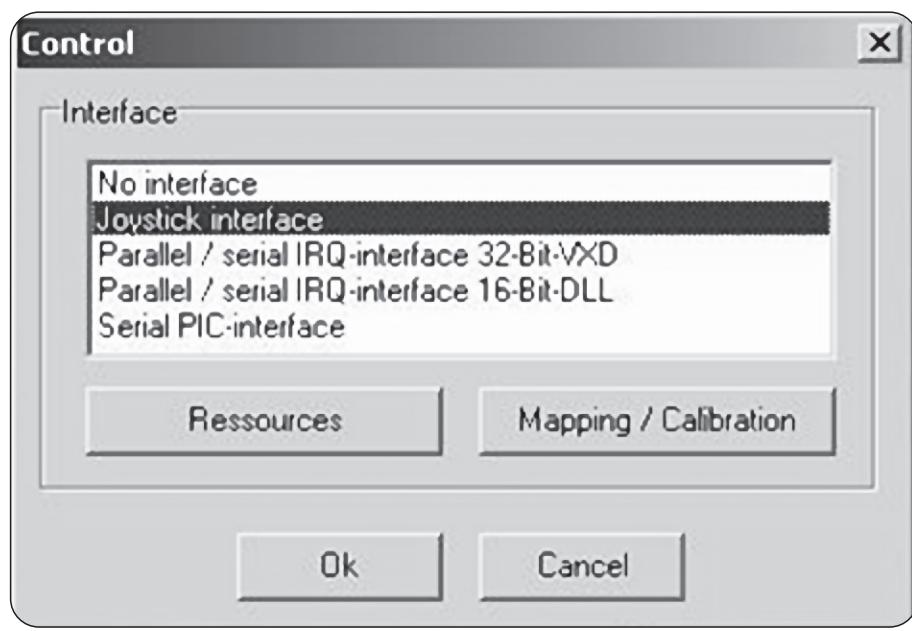
6. Insert the CD-Rom and open it, copy  FMS1 from the CD to your C:/ , and open it. Click  FMS1 to run "FMS", click "Controls" and select "Analog control...".



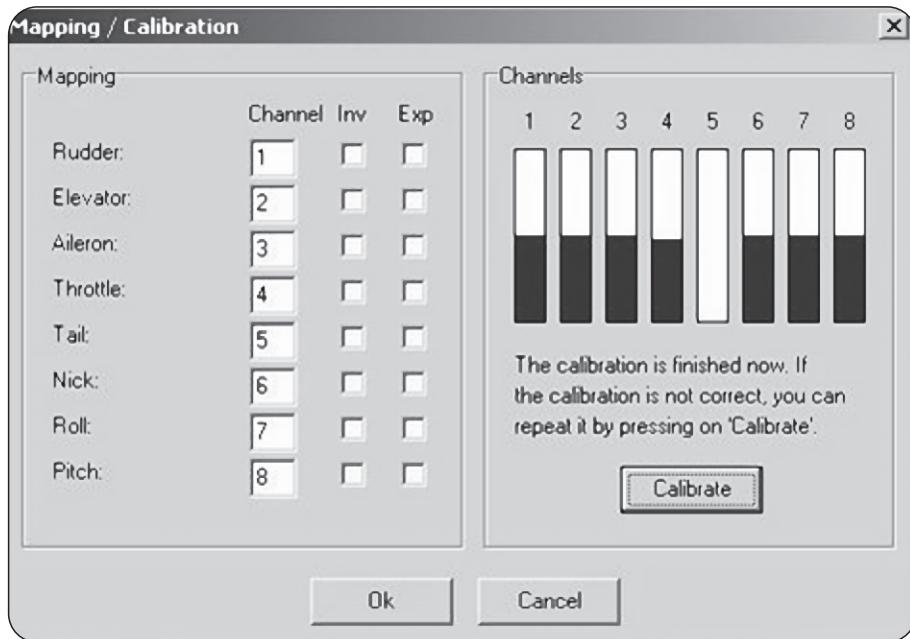


7. Choose the Joystick interface and click

Mapping / Calibration

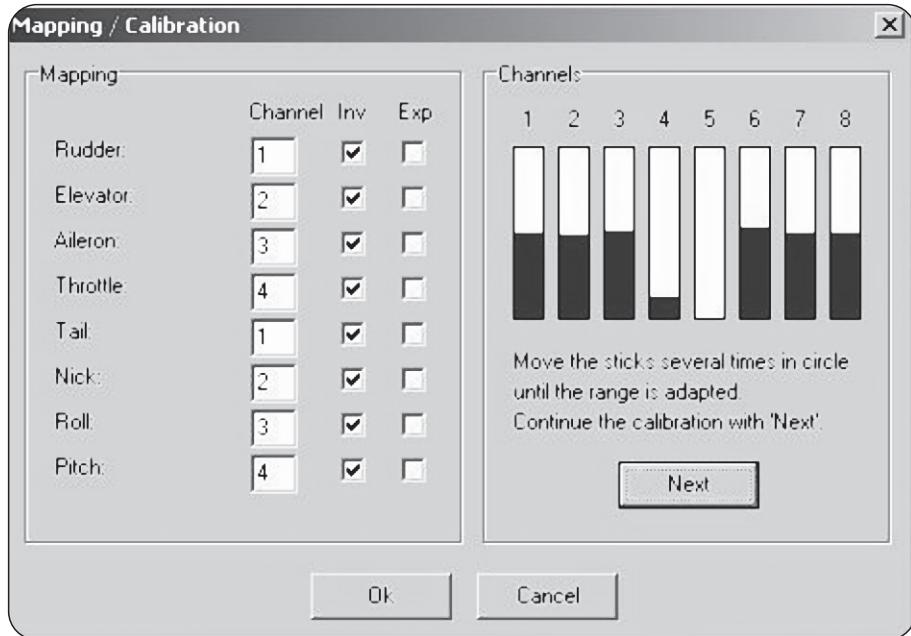


8.Click **Calibrate**



9.Move all joysticks to calibrate the radio. Move aileron joystick to calibrate like the channel 3,move elevator joystick to calibrate like the channel 2, move throttle joystick to calibrate like the channel 4, mov rudder joystick to calibrate like the channel 1. Setup the channels following the figure of the right. (1,2,3,4,1,2,3,4).Then click "Next". Click "Finish" completing the calibration.

Note :The calibration is very important, it will affect the performances of your model. About the "channel", there is a little different setup on different window system.



10. Now, everything is ready, you can fly the model at any moment you like.

11. Control keys:

I: Restart

P: Pause

Number 2,

Number 3,

Number 4,

Number 5,

Number 6,

Number 8,

Number 9: Change the view.



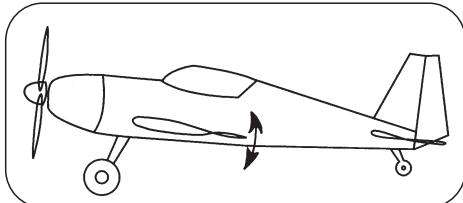
NOTE: THERE IS A LITTLE DIFFERENT INSTALLING STEP ON DIFFERENT
WINDOW SYSTEM

GLOSSARY

The following defines the symbols and terms used in this instruction manual.

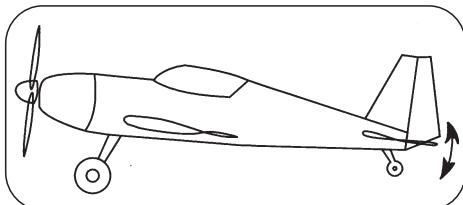
AILERON (AIL.)

Control surface at the left and right sides of the main wing of an aircraft. It usually controls turning of the aircraft.



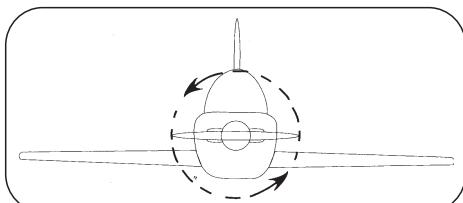
ELEVATOR(ELE.)

Control surface that moves up and down of the horizontal stabilizer of an aircraft. It usually controls up and down.



THROTTLE (THR.)

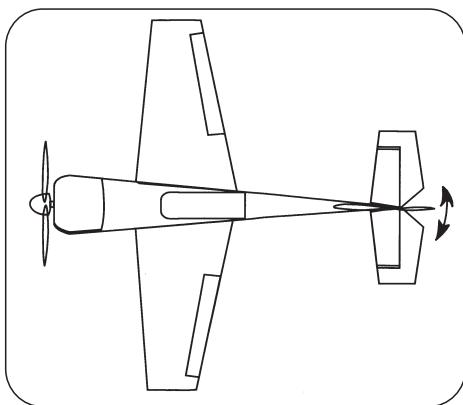
Part that controls the air mixture at the engine intake. When opened (throttle high side), a large air mixture is sucked in and the engine speed increases. When closed (throttle low side), the engine speed decreases.



RUDDER (RUD.)

Tail control surface that controls the direction of the aircraft.

Manufacturer reserves the right to make improvements without notice. Forbid to transfer and copy contents in this manual without consent.





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