INSTRUCTION MANUAL

MODEL: MA-1010
Digital proportional radio control system

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1. Introduction

Thank you for choosing 2.4G ratio remote control digital products, if you are the first time to use this type of products, please read this statement carefully and strictly in accordance with the requirements of operation. You could refer to the manual if you meet any problems during the operation. Please well keep the manual after use because you might have to use it again next time. Once again, thanks for buying our products, and hope that they bring happiness to you.

2. Services

If you found any problems during the operation process, please refer to the manual. If the problem still exist, you could contact our dealers to find out the way to solve. And you could also log on to our website service center.
3. The special symbols

Please pay attention to the following symbols when they appear on the manual, and read carefully.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
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<tbody>
<tr>
<td>! Danger:</td>
<td>If the operator does not operate by following the instructions, the operator may lead to serious injuries, even mortal danger.</td>
</tr>
<tr>
<td>! Warning:</td>
<td>If the operator does not operate by following the instructions, the operator may lead to serious injuries, even mortal danger.</td>
</tr>
<tr>
<td>! Attention:</td>
<td>If the operator does not operate by following the instructions, the operator may lead to minor injuries, but generally it will not cause serious injuries to the operator.</td>
</tr>
</tbody>
</table>

4. Safety guides

- Do not fly in the bad weather such as rainy or thundering day to assure the safety of you and others.

- Before starting the transmitter, please make sure the movement of server is correspond with the direction of joysticks. If inconsistent, please adjust before starting.

- Firstly, you need to turn on the throttle channel (ch3) and inching switch to the lowest before using. Secondly, switch on the transmitter. (Red light or flashing means power shortage.) Finally, connect the receiver.

- When shut down the product, the sequence is close the receiver power, then close the transmitter power. If the sequence is not followed, they may cause uncontrolled or accident.
5. Battery charging notes

If your transmitter, receiver using the nickel-cadmium or nickel-metal hydride rechargeable battery, you must well-check before starting. If power shortage, it may cause inadequate control, out of control, accident or others. So please charge your battery immediately.

If you are using the nickel-cadmium or nickel-metal hydride battery for recharging, please use our company dedicated charger. If the electrical current is too large and it may lead to temperature over-heated and cause fire burning accident. Please cut off the power supply immediately after recharging. Please take out the battery from the transmitter when you are not using it within a period, it is because the battery may damage the aircraft batteries, thus being exposed.

Transmitter charger
1. Install the battery to transmitter with correct direction, and cover it.
2. Connect the charger to the main connector.
3. Connect the charger to the transmitter connector.
4. Cut off the power supply immediately after recharge completed.

Receiver charger
1. Connect the charger to the main connector.
2. Connect the rechargeable receiver with battery charger.
3. Recharge completed, cut off the power supply immediately.
6. Transmitter parameters

Channels: 6 channels
Model type: tank/ helicopter / glider/ airplane
RF range: 2.40-2.48GHz
Bandwidth: 500Hz
Band: 160
RF power: less than 20DBm
2.4G system: AFHDS
Code type: GFSK
Senditivity: 1024
Low voltage warning: yes (less than 9V)
DSC port: yes(PS2; output: PPM)
Charger port: yes
Power: 12V DC(1.5V AA battery * 8pcs)
Weight: 510g
ANT length: 26mm
Size: 180*220*70mm
Color: black
Certificate: CE, FCC

7. Receiver parameters

Channels: 6 channels
Model type: tank/ helicopter / glider/ airplane
RF range: 2.40-2.48GHz
Bandwidth: 500Hz
Band sum: 160
RF receiver sensitivity: -105dbm
2.4G system: AFHDS
Code type: GFSK
Senditivity: 1024
Power: 4.5-6.5VDC
Weight: 13g
ANT length: 26mm
Size: 45*23*9mm
Color: Gray(Transparent)
Certificate: CE, FCC
8. Each part of the transmitter
9. Receiver and server connectivity
10. 2.4G operation notes

This is 2.4G frequency model product make of automatic address code. It uses digital transmission mode and this prevents outside interference effective active and passive.

10.01 Matching code
Our products are well-matched in the factory, you do not need to match by yourself. But if you are going to match the receiver with other transmitter, please follow the following steps:

1. Install the battery to 2.4G transmitter and shut it down.
2. Insert the matching lines to the channel BAT port of the receiver. (Figure 1)
3. Connect the receiver battery to any one of the channel port, at the same time, two LEDs are flashing, this means the receiver is going to the match status.
4. Press and hold the button on the transmitter, and then switch on the power supply.
5. Observe the LED on the receiver, if found that the LED is not flash anymore and that means successful matched. (This process about 10s.)
6. Release the match button on the transmitter, take out the match line.
7. Install the server and then test.
8. If the tests fail, please repeat the action above.
9. If the tests success, then insert the power supply port into BAT, match complete.
(Above operations are for reference. Different product has its own operation.)

10.02 Boot
1. Connect every part.
2. Switch on the power supply.
3. Connect the power supply.
4. Receiver LED light solid.
5. Finish and use.
10.03 Shut down
1. Cut off the receiver power supply.
2. Cut off the transmitter power supply.
11. Functional description

11.01 1 Channel control
This channel is for aileron control.

If you move the transmitter stick to the left, the airplane will incline to the left and the airplane move left. (Figure 1)

If you move the transmitter stick to the right, the airplane will incline to the right and the airplane move right. (Figure 2)

11.02 3 Channel control
This channel is use for throttle control.

If you move the transmitter stick upward, the power of airplane will increase and the airplane rise. (Figure 3)

If you move the transmitter stick downward, the power of airplane will decrease and the airplane drop. (Figure 4)
11.03 2 Channel control
This channel is used for forward and backward control.

If you move the transmitter stick upward, the airplane will move forward. (Figure 1)

If you move the transmitter stick downward, the airplane will move backward. (Figure 2)

11.04 4 Channel control
This channel is used for left and right turning control.

If you move the transmitter stick to the left, the airplane will turn to the left. (Figure 3)

If you move the transmitter stick to the left, the airplane will turn to the left. (Figure 4)
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