

devention  
DEVO-8S



# **DEVO 8S**

**8-channel micro computer system**

## **Users Manual of DEVO-8S transmitter**

Note: Please read throughly the manual before using and keep it in a safe place for the future reference.

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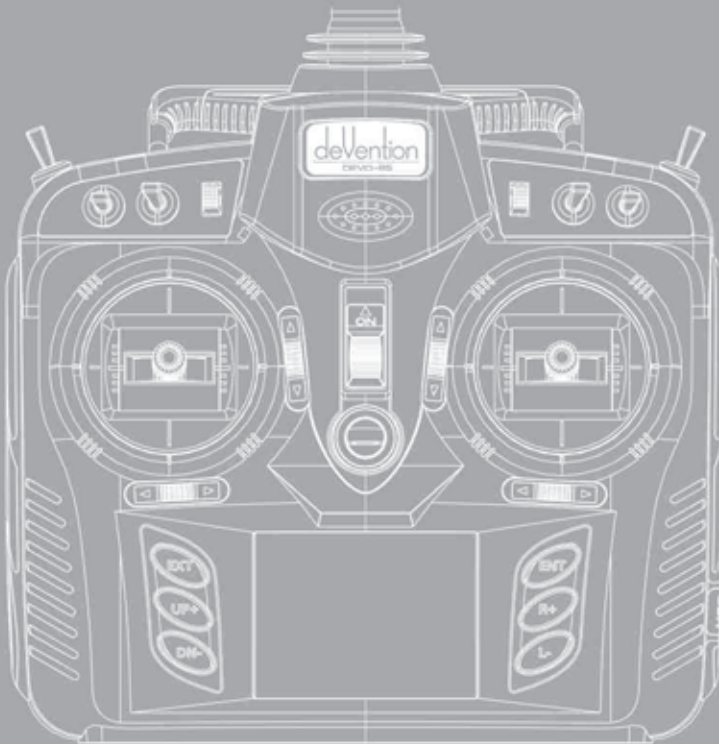
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## Part one General information

DEVO-8S adopts 2.4GHz Direct Sequence Spread Spectrum (DSSS) technology, features automatic ID binding, automatic ID assignment, and also features CUSTOMIZED fixed ID setup. The usage of wireless copy function keeps you away from the trouble in wire link-up. Two mode types of Helicopter and Airplane are available to meet your requirements for different models. Touch screen with wide area is used and it offers you convenient operation. USB Online update technology ensures one transmitter in hand forever not to be out of date and makes it full of vigor.



## 1.0 General information

### 1.1 Important statements

- (1) The transmitter is suitable for experienced radio controlled aircraft modelers beyond 14 years old.
- (2) Flying the model aircraft in approved ground is a must.
- (3) We are not responsible for any safety caused by operation, usage or control as soon as the transmitter is sold out.
- (4) We consign our distributors to offer technical support and service after sale. Please contact the local distributors for problem solutions caused by usage, operation, maintenance, etc.

### 1.2 Safety needing attention

- (1) Far away from obstacle and people.

RC aircraft in flights is uncertain of flight speed and status, which potential risk exists in when flying. Please keep your radio controlled aircraft far away from people, high buildings, high-tension line, etc, and avoid operating in rain, storms, thunder and lightening.



- (2) Away from humid environment

Radio controlled aircraft should be kept away from humidity and vapor because it is composed of complicated precise electronic elements and mechanical parts.



- (3) Proper operation

Use original spare parts to upgrade, modify or maintain your equipment in order to assure its safety. Please operate your equipment within the range of functions permitted. It is forbidden to use out of the safety laws or regulations.



- (4) Safety operation

Operate your equipment according to your body status and flight skills. Fatigue, listlessness and mis-operation will increase the possibilities of accidental hazard.



- (5) Away from heat sources

The inside of the transmitter is composed of precise electronic components and mechanical parts. Keep it far away from heat sources and sunshine to avoid distortion, or even damage caused by high temperature.



### 1.3 Attention before flight

- (1) Ensure the battery packs of both transmitter and receiver are fully saturated.
- (2) Ensure both the throttle stick and the throttle trim of your DEVO-8S stay at the lowest positions before operation.

- (3) Strictly obey the order of TURN-ON and TURN-OFF before operation. When starting your flight, turn on your DEVO-8S first, and connect the battery to the aircraft later. When turning off the aircraft, disconnect the battery first, and turn off your DEVO-8S later. An upset in the order may cause your aircraft out of control. Cultivate a correct habit of turn-on and turn-off.
- (4) Ensure whether the directions and actions of all the servos in your RC aircraft are correct when executing commands of the transmitter. Using broken servos will result in unforeseen dangers.

## 2.0 Features

### 2.1 Features of DEVO-8S

- (1) The DEVO-8S adopts 2.4 GHz Direct Sequence Spread Spectrum (DSSS) technology and features both automatic ID binding and ID assignment. It can also be customizedly set as fixed ID code.
- (2) USB online update makes you always enjoy the latest program.
- (3) Hi-frequency output power is adjustable.
- (4) Wireless data transmission between two DEVO-8S helps experience the training function.
- (5) Up to 12-model data can be saved.
- (6) DEVO-8S adjusting the gyro sensitivity makes hovering flight and fancy flight in an easy way.
- (7) TFT touch screen with graphic interface features direct and convenient setting.
- (8) Shape design accords with human engineering, and provides comfortable holding.
- (9) Both the length and tension of the sticks can be amendable.
- (10) DEVO-8S can be freely switched among Modes 1, 2, 3, and 4.
- (11) DEVO-8S is suitable for Helicopter, Airplane, and Glider. In the Helicopter mode, there are three flight modes, each of which can be freely set and whose parameters can be personalizedly adjusted to meet the requirement for F3C or 3D aerobatic flight.

### 2.2 Features of RX801

- (1) Adopt 2.4GHz Direct Sequence Spread Spectrum (DSSS) that features fast reaction and strong anti-jamming protection.
- (2) Double receiving circuits effectively assure stability of receiving signal.
- (3) The single chip as CPU provides super-strong analyzing ability.
- (4) The RECEIVER maintains the frequency and the ID memories when its changing a new battery pack with the transmitter powered on .
- (5) It can be set as a custom fixed ID and automatic ID assignment.

## 3.0 Specification

### 3.1 DEVO-8S transmitter specification

- Encoder ..... 8-channel micro computer system
- Frequency ..... 2.4GHz DSSS
- Output power .....  $\leq 100$  mW
- Current drain .....  $\leq 230$  mA (at 100 mW)
- Power supply ..... 5# Dry cell 4 X1.5V, or NiMH 4 X1.2V 1,600 - 2,000 mAh
- Output pulse ..... 1000 – 2000 Ms (1500Ms Neutral)

### 3.2 Receiver specification

- Type ..... 2.4GHz 8 channels
- Sensitivity ..... - 105 dbm
- Frequency interval .....  $\geq 4$  M
- Weight ..... 9.5 g
- Dimension ..... 38X28.5X14.5mm
- RX power supply ..... 4.8-6V 1,300mAh

## 4.0 Definition of DEVO-8S

### 4.1 Panel definition



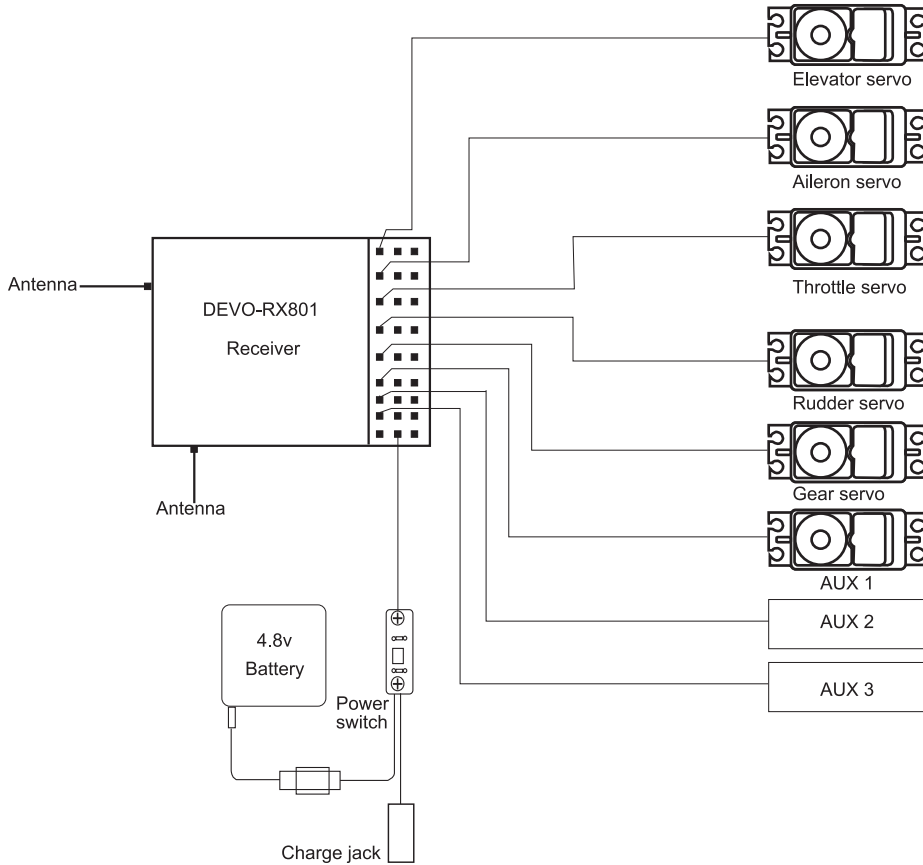
### 4.2 Rear definition



(1) Charge socket (CHG): input DC at 8-12V, 200 mA; Polarity:  $\oplus \rightarrow \ominus$

(2) Digital Signal Converter socket (DSC): for simulator flight practice via computer (You need software and its dongle which are available in hobby shops, and for training.

### 4.3 Wiring diagram



### 4.4 Function keys in panel

There are 6 functional keys in the panel of DEVO-8S. Below are the details:

- (1) EXT: Resetting key. Press EXT to exit the menu.
- (2) ENT: Confirmation key. Press ENT to get access to the system or the function mode.
- (3) UP+: Function-selecting key. Move cursor up to the forward function item.
- (4) DN-: Function-selecting key. Move cursor down to the next function item.
- (5) R+: Move cursor rightwards to increase the setting value.
- (6) L-: Move cursor leftwards to decrease the setting value.

## 5.0 Control stick adjustment

The control stick adjustment includes two parts: length adjustment and tension adjustment.

### 5.1 Control stick length adjustment

- (1) Prolong the stick length: Counter clockwise rotate the stick head until the length you desire, and then counter clockwise tighten the stick sleeve.
- (2) Shorten the stick length: Clockwise rotate the stick sleeve until the length you desire, and then clockwise tighten the stick head.

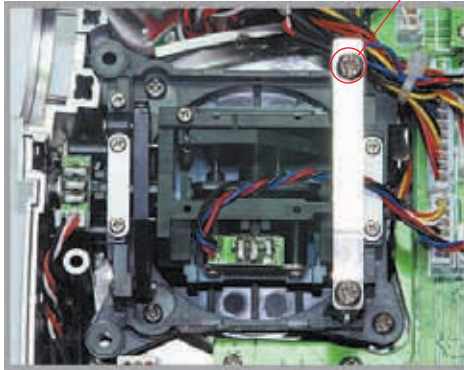




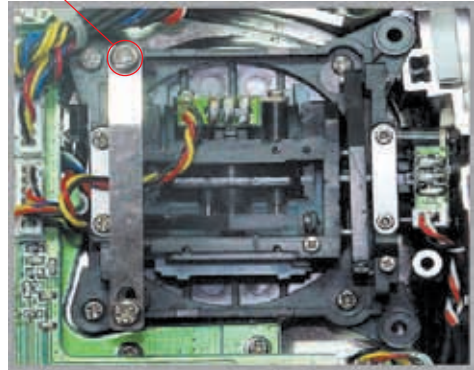
### 5.2 Control stick tension adjustment

Clockwise rotate the stick tension screw through the regulation hole in the rear panel of DEVO-8S for tightening the tension of the corresponding stick by a Phillips screwdriver, and counterclockwise rotate the stick tension screw for loosening the tension.

One stick tension screw inside each hole



Right throttle set



Left throttle set

## 6.0 Neck strap usage

There is a hook in the face panel of DEVO-8S. The neck strap can be connected to the hook. The Hook located at the center helps to get optimal balance of the transmitter.



Hook

## 7.0 Stick mode switch

There are total four stick modes from MODE 1 through MODE 4. The left-hand throttle contains MODE 2 and MODE 4, and the right-hand throttle includes MODE 1 and MODE 3. Below are the sketch maps:



MODE 1

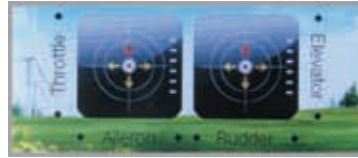


MODE 3

Right-hand stick includes MODE 1 and MODE 3.



MODE 2



MODE 4

Left-hand stick includes MODE 2 and MODE 4.

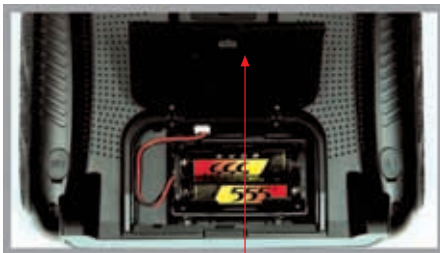
## 8.0 Switches between left-hand and right-hand throttles

The throttle switches between the left hand and right hand will be successful if both the MECHANICAL switch and ELECTRONIC switch are finished, separately. Below are the methods for switching.

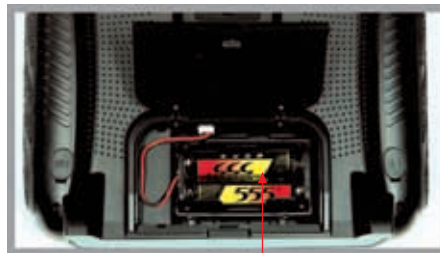
### 8.1 Right-hand throttle switched to left-hand throttle

(1) MECHANICAL switch

Open the battery compartment cover in the rear of your DEVO-8S. Push rightwards and take out the battery pack.



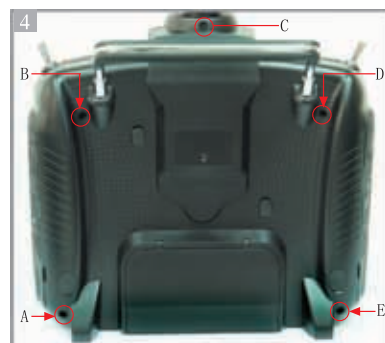
1 Open the battery compartment cover



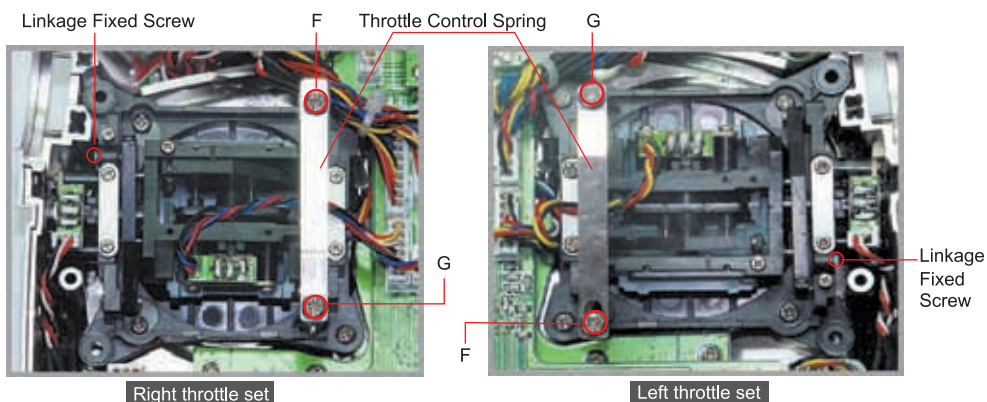
2 take out the battery pack

3 Remove the left lateral and right lateral non-slipping blocks, respectively.



4 Remove the fixed screws A, B, C, D, and E, and then remove the base plate.




Below are shown the inside views of left and right throttle sets, respectively. Use cross screwdriver to loosen and remove Linkage Fixed Screw, Screw F, Screw G, and Throttle Control Spring in right throttle set, respectively, and then mount them in the corresponding positions in left throttle set. And then adjust the stick tension according to your habit.



## (2) ELECTRONIC switch

Touch the shortcut icon  to enter System Menu, and then touch the icon  to enter the stick mode interface, and then select the mode you desire.



Touch  to save and exit after the selection is finished.

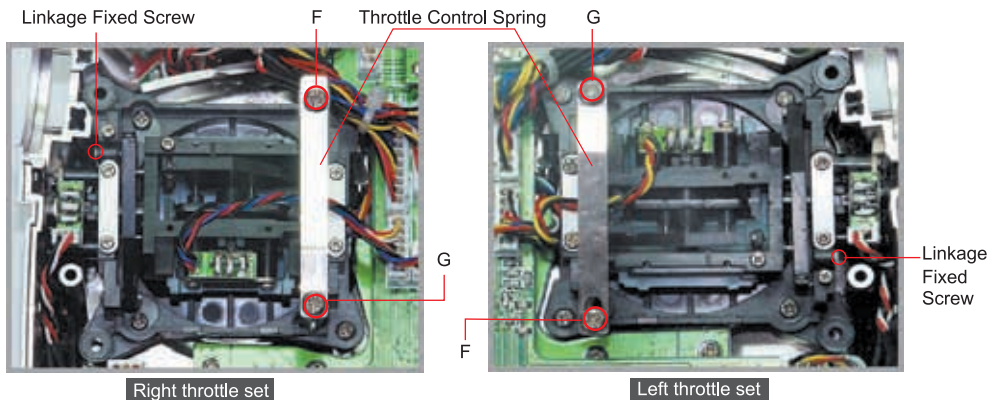
The switch from right-hand throttle to left-hand throttle is finished after both the MECHANICAL and ELECTRONIC switches changed, respectively. And the transmitter is ready to normally work now.

## 8.2 Left-hand throttle switched to right-hand throttle

### (1) MECHANICAL switch

Refer to the above “MECHANICAL switch” to open the transmitter cover.

Below are shown the inside views of left and right throttle sets, respectively. Use cross screwdriver to loosen and remove Linkage Fixed Screw, Screw F, Screw G, and Throttle Control Spring in left throttle set, respectively, and then mount them in the corresponding positions in right throttle set. And then adjust the stick tension according to your habit. After finished close the transmitter cover.



(2) The data switch

Touch the shortcut icon to enter System Menu, and then touch the icon to access to Stick Mode. The model data will be automatically switched when touching MODE 1 or MODE 3.



The left- and right-stick positions are shown, respectively, in the lower right corner when MODE 1 is selected. The left- and right-stick positions are shown, respectively, when MODE 3 is selected.

Touch to save and exit after the selection is finished.

The switch from left-hand throttle to right-hand throttle is finished after both the MECHANICAL and ELECTRONIC switches changed, respectively. And the transmitter is ready to work normally.

Note: pay attention to the force when rotating the screws. Excessive forces may damage them.

## 9.0 Training function

Two DEVO-8S transmitters working together can execute the training function to meet the requirements for the beginners. The setting method is shown as below:

(1) Data copy

Using the wireless copy function of two DEVO-8S equipments, the model data saved in the trainer's one can be transmitted to the trainee's to ensure that the model parameters are exactly same. Regarding the copying method, refer to "2.4 Model Wireless Copy" at "Part Two: Helicopter". Then follow the steps below:

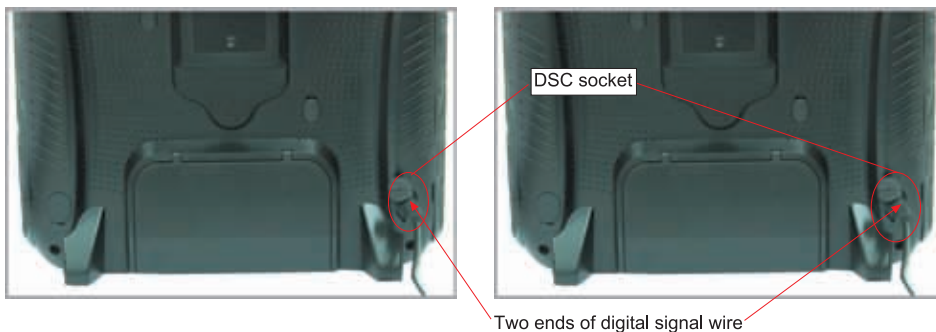
(2) Linkage

Insert one end of the signal wire into DSC socket at the rear face of the trainee's DEVO-8S, and then turn on the power. A linkage icon will be shown on the boot screen. Find out the trainee's model data at its DEVO-8S.

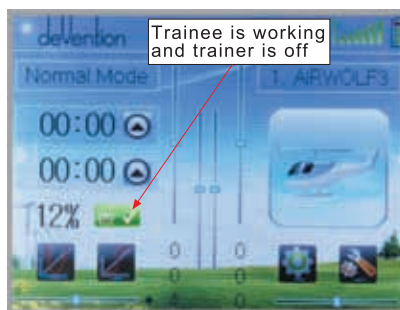
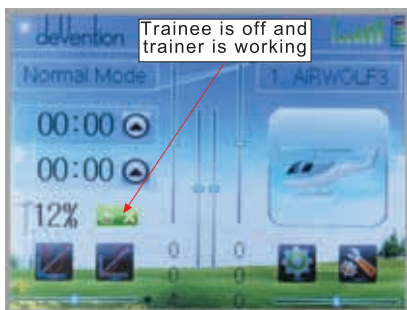


Turn on the power of the trainer's DEVO-8S. Find out the trainee's model data, and then let the trainer's DEVO-8S bind with the helicopter model and fly it normally. Then turn off the power.

Insert the other end of the digital signal wire into the trainer's DEVO-8S, and then turn on its power. A linkage icon will be shown as below:



Training status display: when the trainer's icon becomes into "X", the trainee stops flying and the trainer is working; when the trainer's icon turns into "√", the trainee is flying and the trainer is in leisure.



### (3) Usage method

The training switch can be freely switchable between Left trim and Right trim. The default setting is Right trim. Shown as below:



During flight, if the trainer pushes Right Trim once, the linkage icon will be shown as "√" that means the control right is moved to the trainee from Trainer. If trainer pushes Right Trim once again, the linkage icon will be shown as "X" that means the trainer takes back the control right from the trainee.

### (4) Setting for training function channels

Trainee is available to get full or part of flight control power to the aircraft model via setting the training function channel in the trainer's DEVO-8S. Below is the setting method:

Touch the shortcut icon to enter Function Menu, and then click to get access to Trainer screen. The available channels are shown below, and the current status of trainer switch TRN is also shown. Press the navigation sign of the switch there will come out two choices, left trimming button and left trimming button, press the option for the TRN.



Touch the channel(s) which you want to grant to trainee. The channel(s) you have touched will be activated as "Active". The channels which are not granted to trainee will be kept inhibited. The default setting is "Inhibit".

Touch to exit.

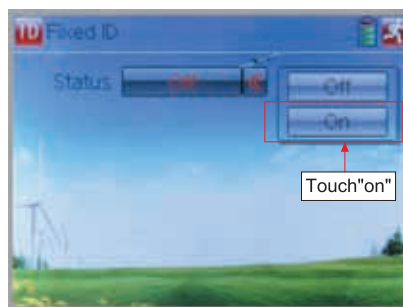
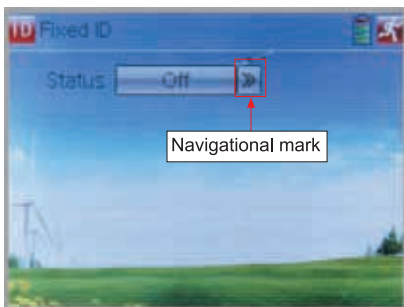
## 10.0 Customized fixed ID

This setting will bind DEVO-8S with its receiver in a unique corresponding relationship. It will greatly speed up the time of automatic binding when DEVO-8S powered on.

### (1) Setting for fixed ID

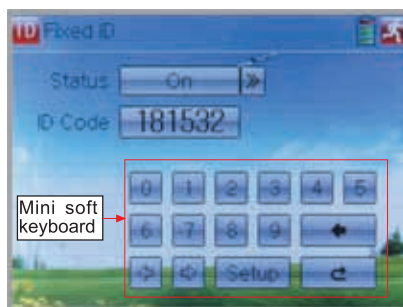
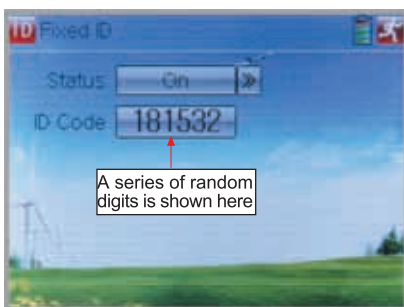
The setting for fixed ID should be under the status that automatic ID binding is successfully finished. Below is the setting method.

Touch the icon to enter Model Menu, and then enter Fixed ID by touching the icon in Model Menu.



Touch the navigational mark of the item ID Code Setting. It will expand into two statuses: Off and On. A series of random digits will be shown below after touching On.

A mini soft keyboard is shown in the lower part after touching the random digits of ID Cod.



The new ID digits can be modified by touching the mini soft keyboard. Touch Match after the new ID has been set. An inquiry interface of "Are you sure?" pop up. "ID Code Match....." will be shown after touching OK.



### (2) Fixed ID cancellation

Insert the assorted BIND PLUG into the output terminal of BATT before the receiver is powered on, and then plug 5V DC power into other output terminal. The red light of receiver will flash slowly. This means the fixed ID code has been cancelled. Pull out BIND PLUG.