User Manual for DEVO-12

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Welcome to use DEVO-12 transmitter.

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

User Manual of DEVO-12 transmitter

Part one: General information

1.0 General information

1.1 Foreword

DEVO-12 takes 2.4GHz Direct Sequence Spread Spectrum (DSSS) technology, features automatic ID binding, automatic ID assignment, and also features customizedly fixed ID setup. The usage of wireless copy function keeps you away from the trouble in wire link-up. Three mode types of Helicopter, Airplane, and Glider 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 USB Online update technology ensures one transmitter in hand forever not to be out of date and makes it full of vigor.

1.2 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.

1.3 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 humidity environment

Radio controlled aircraft should be kept away from humidity and vapor because it is composed of complicated precise electronic elements and mechanic 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 form heat sources and sunshine to avoid distortion, or even damage caused by high temperature.

6) Correct charging method

Use the assorted charger to charge the battery for your DEVO-12. The usage of the charger should be within the range of rated voltage.

1.4 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-12 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-12 first, and connect the battery to the aircraft last. When turning off the aircraft, disconnect the battery first, and turn off your DEVO-12 last. 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-12

1) The DEVO-12 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-12 helps experience the training function.

5) Up to 60-model data can be saved.

6) DEVO-12 adjusting the gyro sensitivity makes hovering flight and fancy flight in an easy way.

7) Ultra big size 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-12 can be freely switched among Modes 1, 2, 3, and 4.

11) DEVO-12 is suitable for Helicopter, Airplane, and Glider. In the Helicopter mode, there are four flight modes, each of which can be freely set and its parameters can be personalizedly adjusted to meet the requirement for F3C or 3D aerobatic flight.

2.2 Features of RX1201

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) RX-12 maintains memories of both the frequency and ID code when it's changed a new battery pack with DEVO-12 powered on

5) It can be customizedly set as fixed ID and automatic ID assignment. .

3.0 Specification

3.1 DEVO-12 specification

Encoder ……..12-channel micro computer system

Frequency …….. 2.4GHz DSSS

Output power …….. ≤ 100 mW

Current drain ……≤ 400 mA (at 100 mW)

Power supply …….... LiPo 3.7V 3,000 mAh

Output pulse ……. 1000 – 2000 mS (1500 Neutral)

3.2 Receiver specification

Type ……2.4GHz 12 channels

Sensitivity …….. 95 dbm

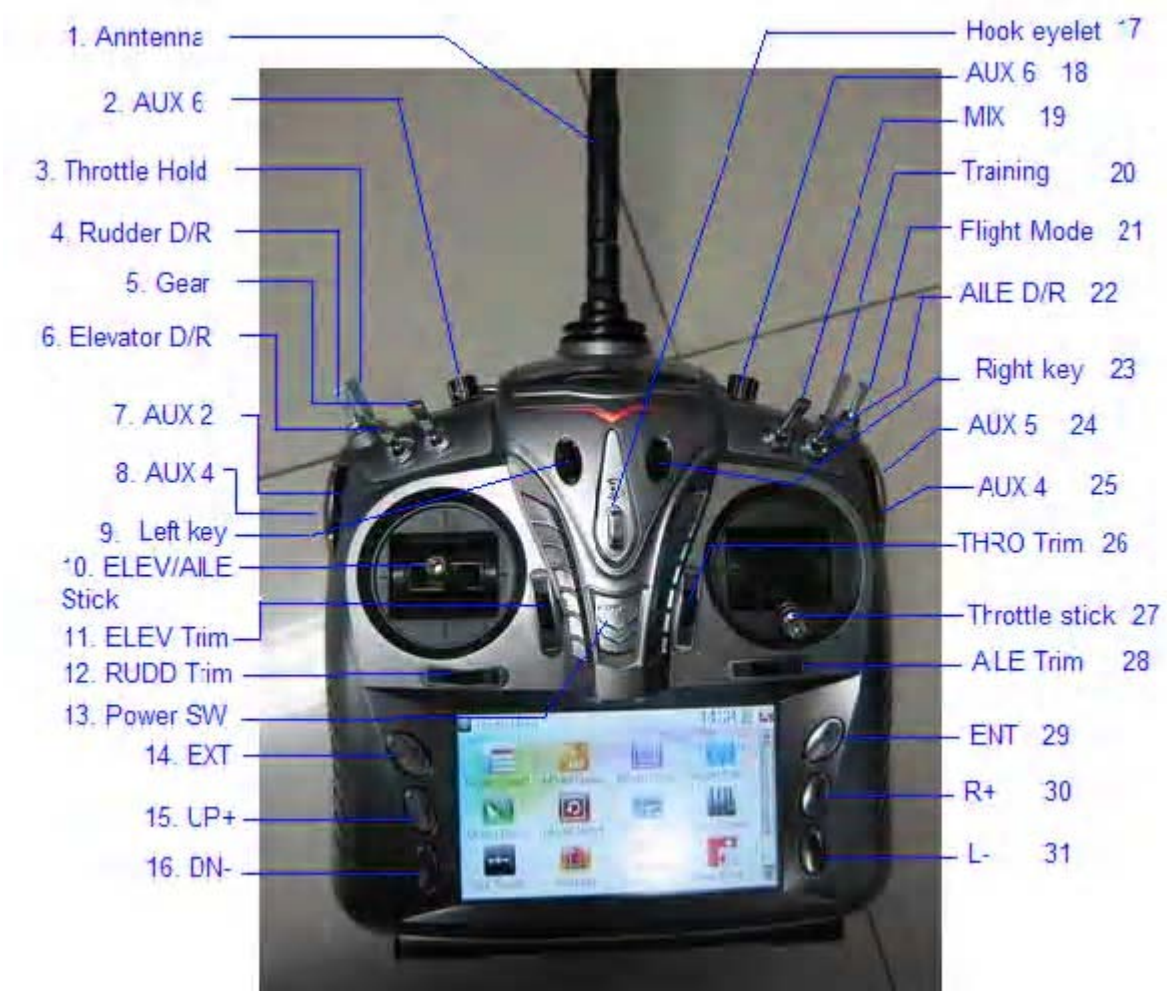
Frequency interval ……. ≥ 4 M

Weight …….. 15 g

Dimension …….. 48.6X32.3X17.3 mm

4.0 Definition of DEVO-12

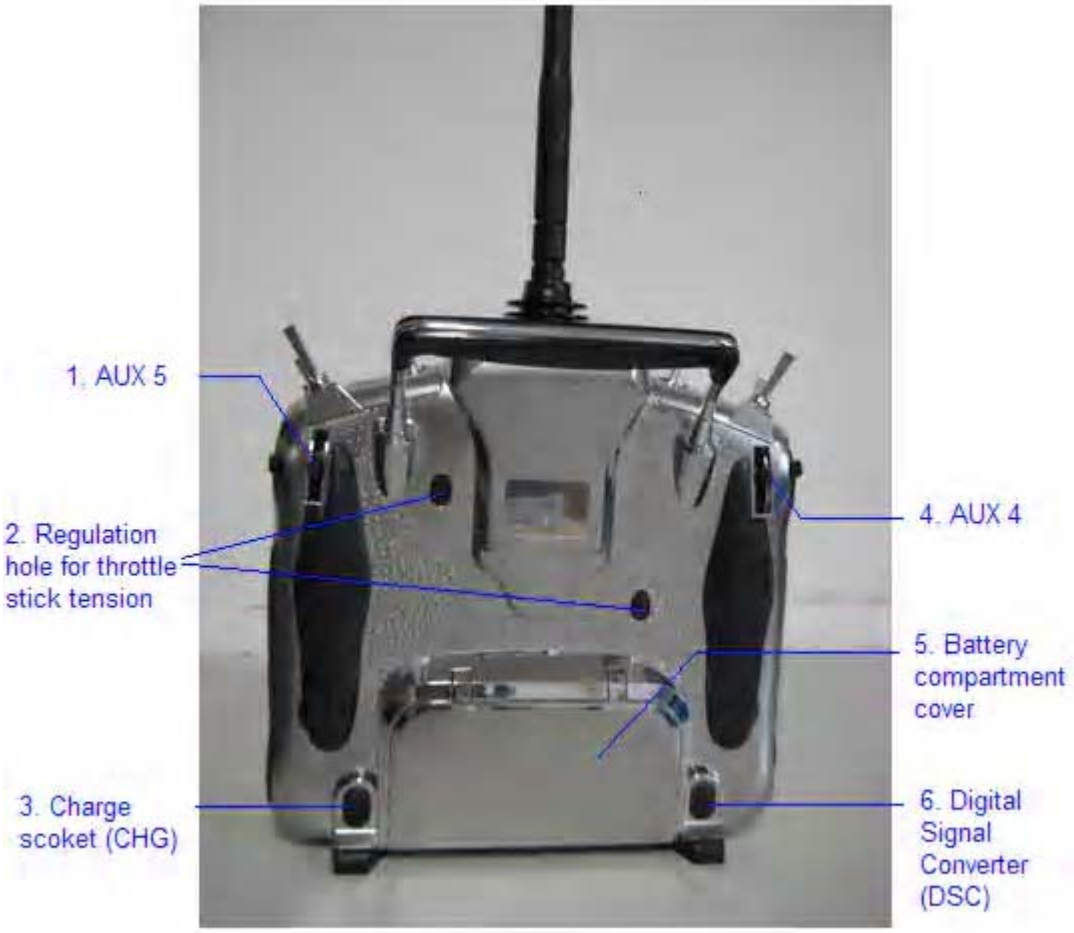
4.1 Panel definition

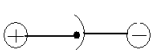


N/O	English	Your language	N/O	English	Your language
1	Antenna		17	Hook eyelet	
2	AUX 6		18	AUX 6	
3	Throttle Hold		19	MIX	
4	RUDD D/R		20	TRN	
5	GEAR		21	FMOD	
6	ELEV D/R		22	AILE D/R	
7	AUX 2		23	Right key	
8	AUX 4		24	AUX 5	
9	Left Key		25	AUX4	
10	ELEV/AILE Stick		26	THRO Trim	

11	ELEV Trim		27	Throttle stick	
12	RUDD Trim		28	AILE Trim	
13	Power SW		29	ENT	
14	EXT		30	R+	
15	UP+		31	L-	
16	DN-		32		
			33		

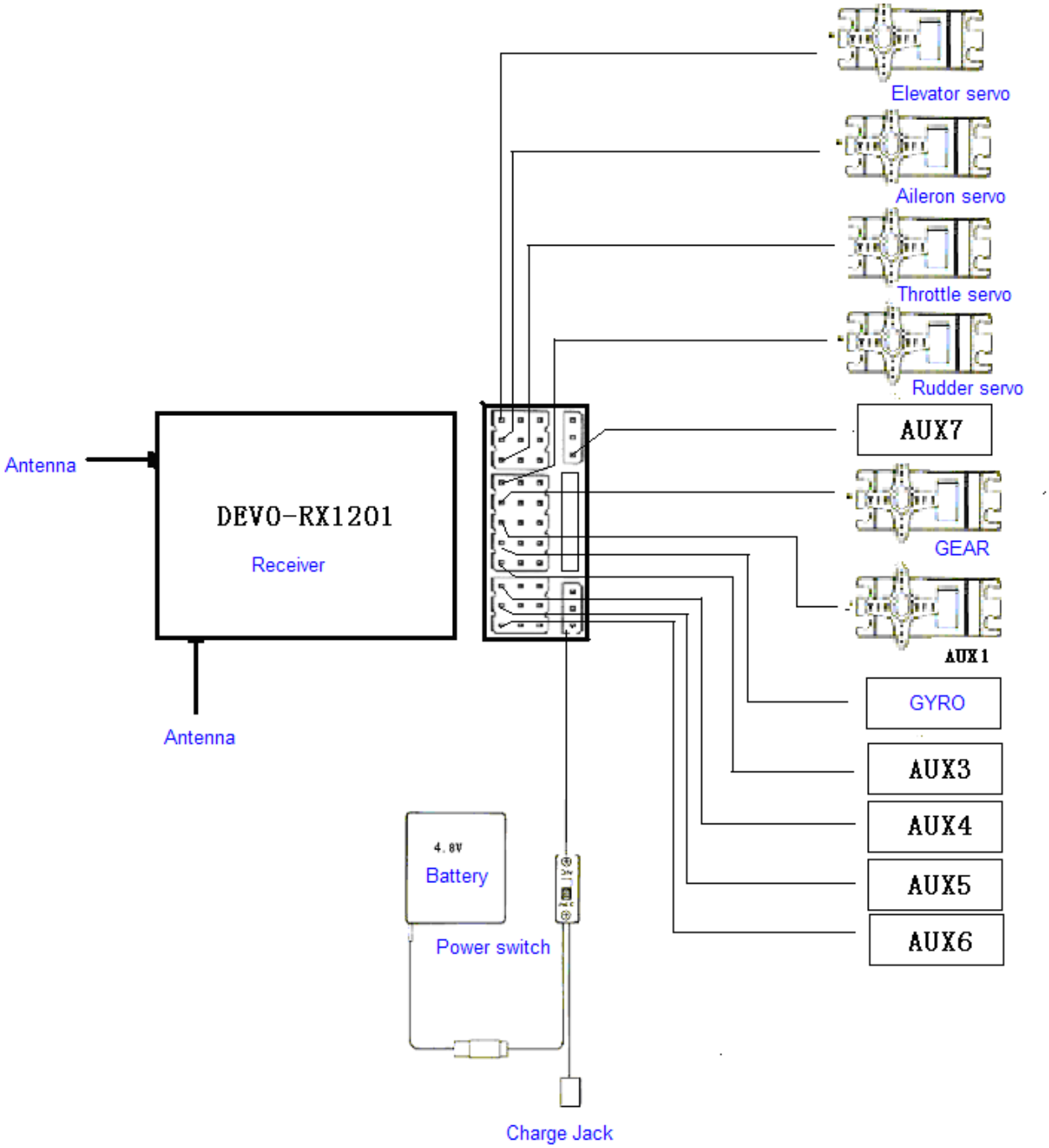
4.2 Rear definition



1. AUX 5
2. Regulation holes for throttle stick tension.
3. Charge socket (CHG): input DC at 5V, 500-1000 mA; Polarity:  .
4. AUX 4

5. Battery compartment cover
6. 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



N/O	English	Your language	N/O	English	Your language

1	Receiver DEVO-RX1201		10	Gear servo	
2	Antenna		11	AUX 1	
3	Battery		12	AUX 2	
4	Power switch		13	AUX 3	
5	Charge jack		14	AUX 4	
6	Elevator servo		15	AUX 5	
7	Aileron servo		16	AUX 6	
8	Throttle servo		17	AUX 7	
9	Rudder servo		18		

4.4 Function keys in panel

There are 6 functional keys in the panel of DEVO-12. 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.

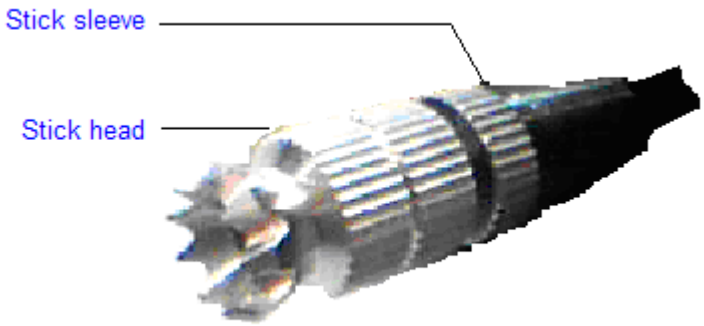
5.0 Control stick adjustment

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

5.1 Control stick length adjustment

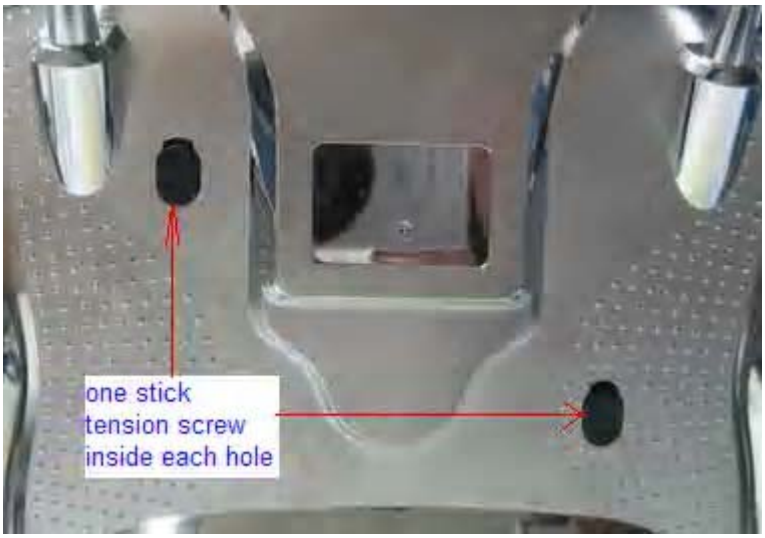
1) Prolong the stick length: CCW rotate the stick head until the length you desire, and then CCW tighten the stick sleeve.

2) Shorten the stick length: CW rotate the stick sleeve until the length you desire, and then CW tighten the stick head.



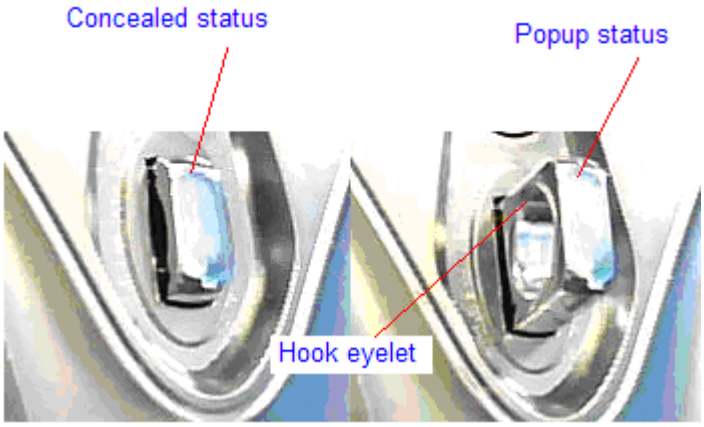
5.2 Control stick tension adjustment

Clockwise rotate the stick tension screw through the regulation hole in the rare panel of DEVO-12 for tightening the tension of the corresponding stick by a Phillips screwdriver, and counterclockwise rotate the stick tension screw for loosening the tension.



6.0 Neck strap usage

There is a concealable hook eyelet in the face panel of DEVO-12. It will pop up as you press the hook eyelet. The neck strap can be connected to the eyelet. The eyelet located at the center helps to get the best balance of your DEVO-12.



	English	Your language
1	Concealed status	
2	Popup status	
3	Hook eyelet	

7.0 Stick mode switch

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

1) Left-hand stick includes MODE 2 and MODE 4.

MODE 2

MODE 4

2) Right-hand stick includes MODE 1 and MODE 3.

MODE 1

MODE 3

	English	Your language

1	Throttle	
2	Rudder	
3	Aileron	
4	Elevator	

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

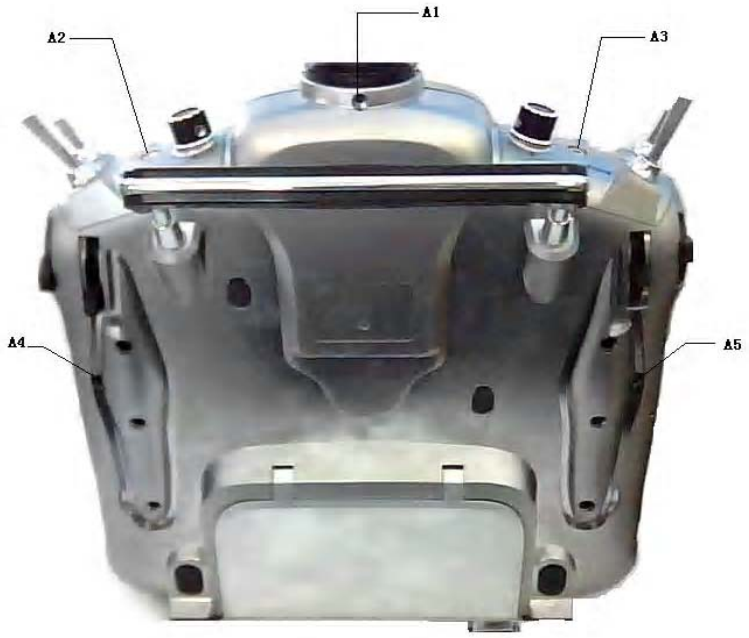
1) MECHANICAL switch

Open the battery compartment cover in the rear of your DEVO-12. Push rightwards and take out the battery pack.

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

	English	Your language
1	Lateral non-slipping block	
2	Rear non-slipping block	
3	Remove the block from the semicircle hole	

Remove the fixed screws A1~A5, B1~B5, and then remove the base plate.



English	Your language
Base plate	

Remove the screws C1 and C2.

Open the left and right switch caps, respectively, and then unscrew the screws C3 and C4. And remove the rear cover. Note: don’t break the wires inside.

English	Your language
Left switch cap	
Right switch cap	

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.

English	Your language
Right throttle set	
Left throttle set	
Linkage Fixed Screw	
Throttle Control Spring	

2) ELECTRONIC switch

Touch the shortcut icon to enter System Menu. Touch the shortcut icon to enter the interface of Stick Mode, and then select the mode you desire.

Touch to save and exit after the selection is finished.

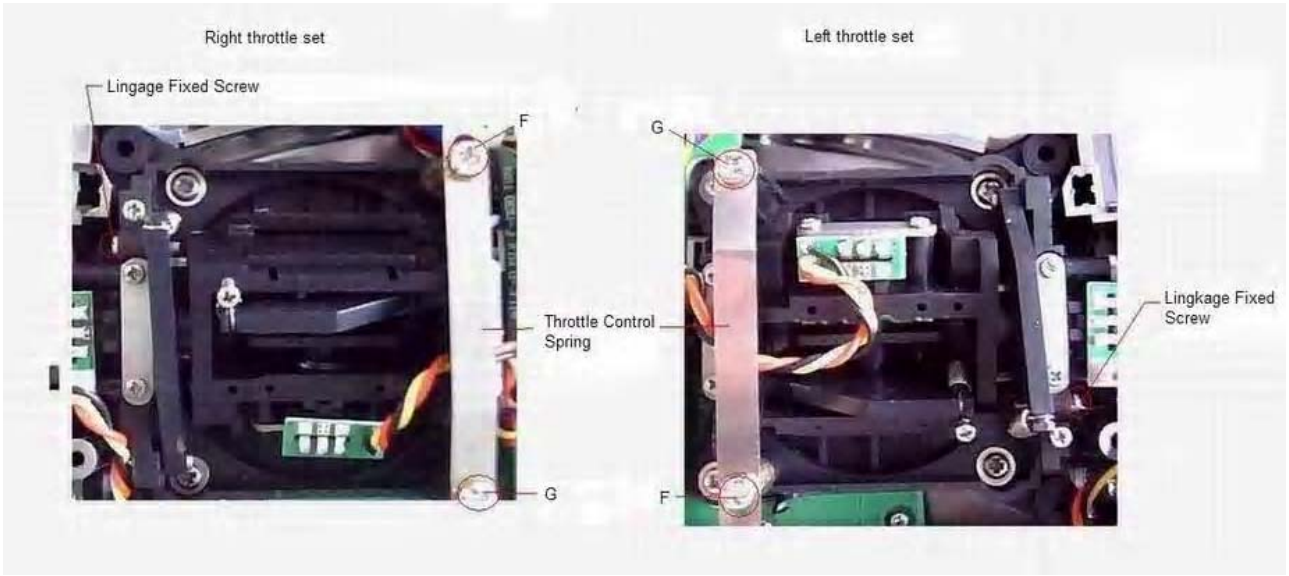
The switch from right-hand throttle to left-hand throttle is finished after both the MECHANICAL and ELECTRONIC switches changed, respectively. And the transmitter is ready to normally work now.

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.



2) ELECTRONIC 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, in the lower right corner 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 strength when removing and adjusting the screws. Excessive strength may damage them.

9.0 Training function

Two DEVO-12 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 the two DEVO-12 transmitters, the model data saved in the trainer's transmitter can be transmitted to the trainee's to ensure the model parameters are exactly same. Regarding the copying method, refer to 2.4 Model Wireless Copy at "Part Two: Helicopter". Then fallow the steps below:

2) Linkage

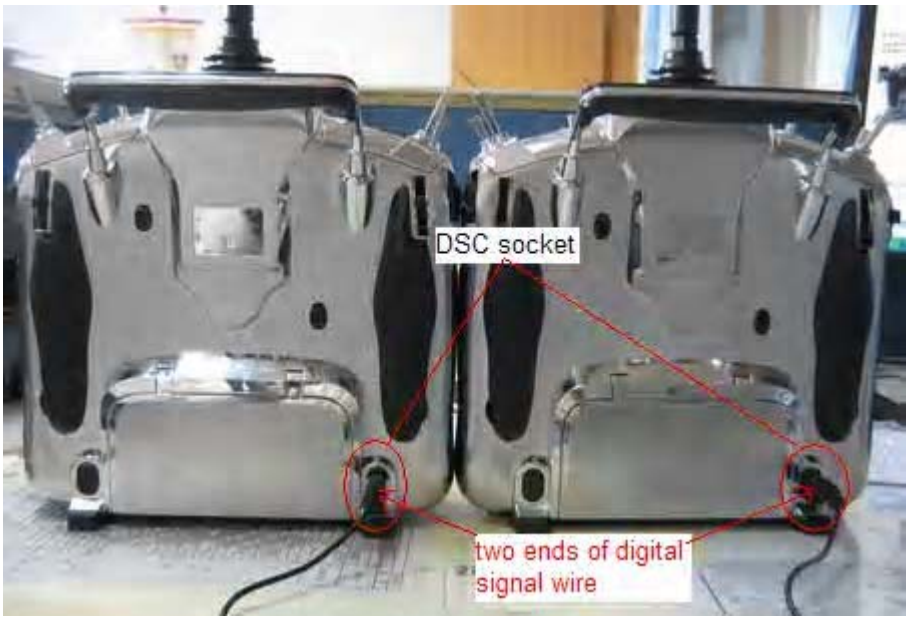
Insert one end of the signal wire into DSC socket at the rear face of the trainee's DEVO-12, and then turn on the power. A linkage icon will be shown on the boot screen. Find out the trainee's model data.

English	Your language
Linkage icon at trainee's icon	

Turn on the power of the trainer's DEVO-12. Find out the trainee's model data, and let the trainer's DEVO-12 fly the aircraft model normally. Then turn off the power.

Insert the other end of the digital signal wire into the trainer's DEVO-12, and then turn on its power. A linkage icon will be shown as below:

English	Your language
Linkage icon at trainer's DEVO-12	



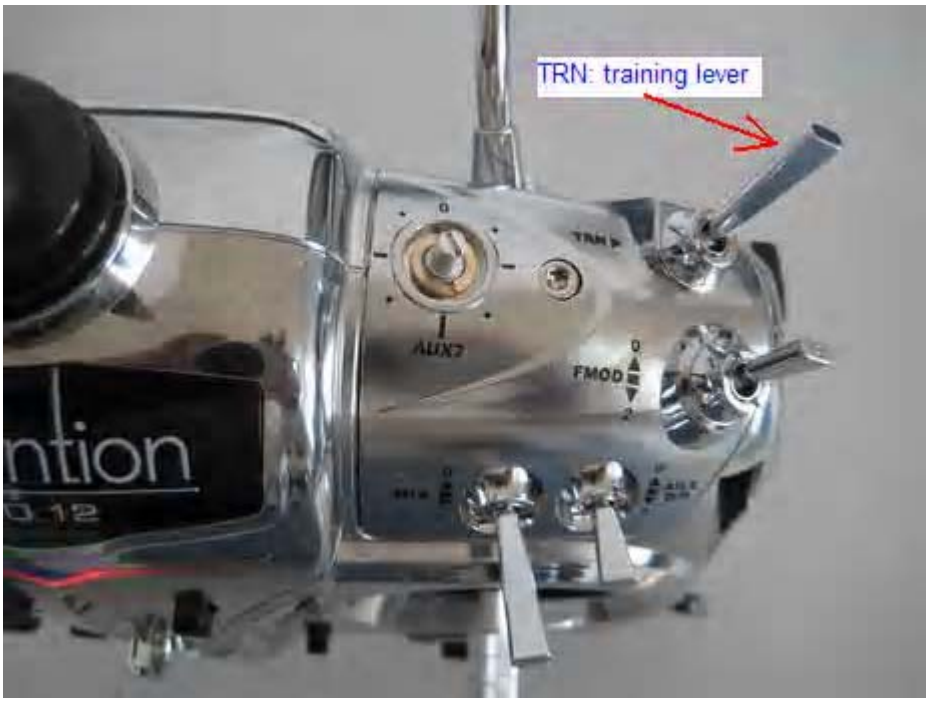
English	Your language
DSC socket	
Two ends of digital signal wire	

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.

English	Your language
Trainee is off and trainer is working	
Trainee is working and trainer is off	

3) Usage method

The training switch should be worked with the TRN training lever, which is located at the right top of DEVO-12.



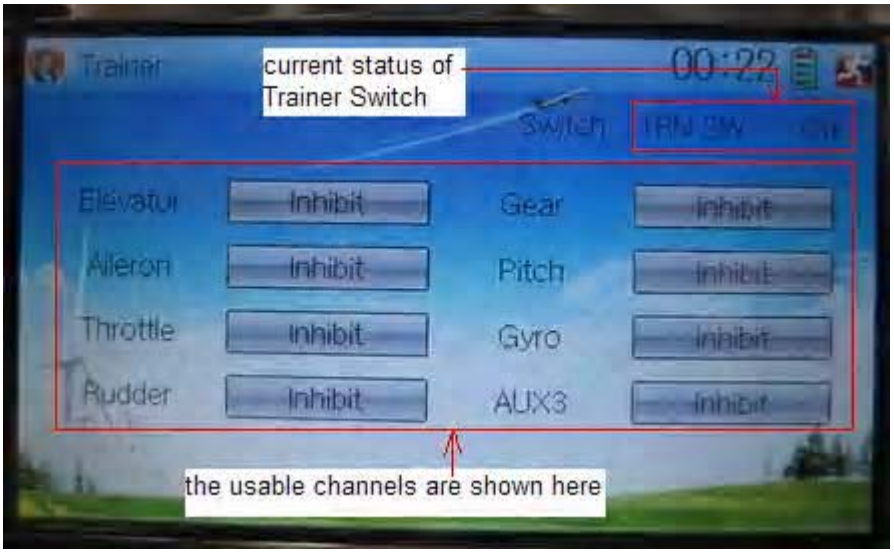
English	Your language
TRN: training lever	

If the trainer's finger pulls the training lever TRN, a "√" is shown in the linkage icon, which means the trainee is controlling the flight; if the trainer releases his finger from the trainer lever, an "X" will be shown there, which means the trainee stops controlling.

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-12. Below is the setting method:

Touch the shortcut icon to enter Function Menu, and then touch in Function Menu to get access to Trainer screen. The available channels are shown below, and the current status of trainer switch TRN is also shown.



English	Your language
Current status of Trainer Switch (TRN SW)	
The usable channels are shown here	

Touch the channel(s) which you desire 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 save and exit after finished.

10.0 Customized fixed ID

This setting will bind DEVO-12 and its receiver in a unique corresponding relationship. It will greatly speed up the time of automatic binding when DEVO-12 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.

English	Your language
Navigation mark	

Touch the navigation 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.

English	Your language
Touch “On”	

A series of random digits is shown here	

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

English	Your language
Mini soft keyboard	

The new ID digits can be modified by touching the mini soft keyboard. Touch Match after the new ID is already set. An enquiry interface of “Are you sure?” pop up. “ID Code Match … …” will be shown after touching OK.

English	Your language
ID Code Setting	
ID Code	
Fixed ID	
Are you sure?	
Cancelled	

ID Code Match	

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.

DEVO-12 also needs to make relative cancellation and reversion after the fixed ID in receiver is cleared out.

In the main interface touch the icon to enter Model Menu and then touch to enter Fixed ID. Touch ID Code Setting to expand the navigation mark into two statues On and Off. Touch Off. Then touch to exit.

11.0 Installation requirements for receiver

It is important to correctly mount your transmitter system in your model. Below are some advices on how to install your equipments.

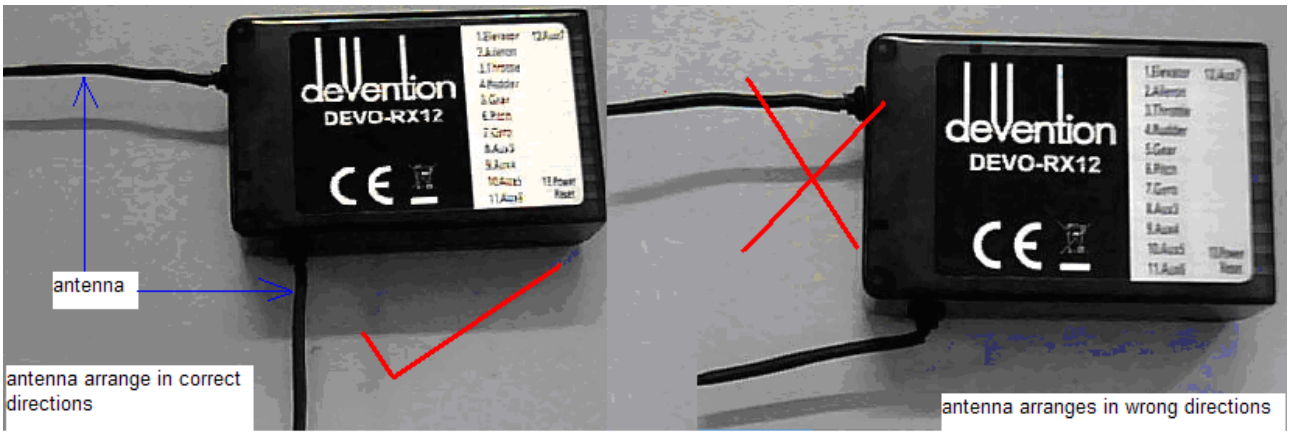
1) Wrap the receiver with 10mm thick foam and soundly fix it with a rubber or magic string on your aircraft model. It helps protect the receiver from damage.

2) It is necessary to use rubber grommets and copper sleeves to isolate the vibrations from the main body of aircraft model. The mounting screws cannot be over-tightened. Otherwise the rubber grommets will be distorted and decrease the vibration absorption effect.

3) When mounting the servos, make sure the servos' bellcranks can move freely over their whole travel range and ensure the control linkages don't touch or impede the movement of these servos.

4) If installing various switches, keep them far away from the engine tuned pipe and high vibration sources. Ensure all the switches move freely over their whole travel range.

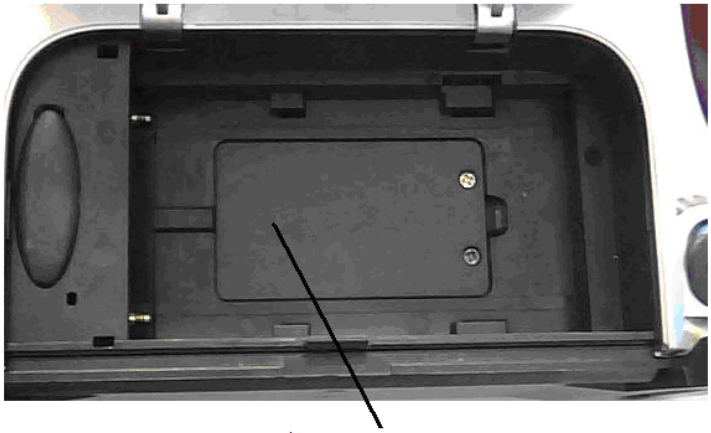
5) Don't make the receiver antennas wrapped or parallel.



English	Your language
Antenna	
Antenna arranges in correct directions	
Antenna arranges in wrong directions	

12.0 Installation requirement for DEVO-12 Battery pack

Put the battery pack into the battery compartment in a correct position and then push it leftwards.



put the battery pack into the battery compartment and push it leftwards

English	Your language
Battery compartment	
Put the battery pack into the battery compartment and push it leftwards	

12.1 Matters needing attention on battery pack

1) Forbidden to disassemble battery pack in any case.

2) Forbidden to use or save the battery pack under such high temperature environment as fire, heater, strong sunshine, or car. Otherwise superheat, fire, functional decline or lifetime dumping may happen.

3) Forbidden to sink the battery pack in water, also forbidden to be affected with damp.

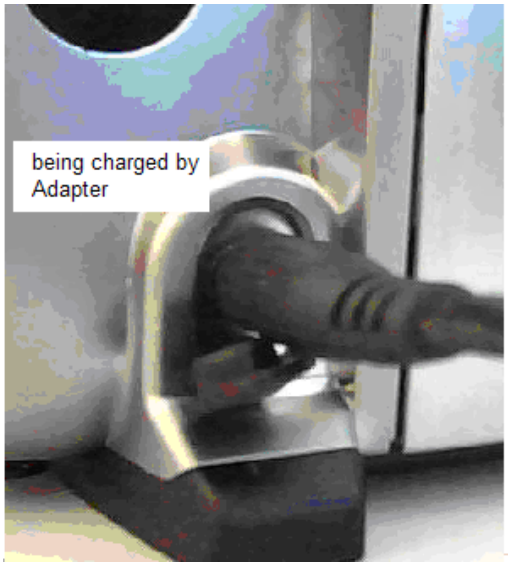
4) Forbidden to make a short circuit between anode and cathode of battery pack.

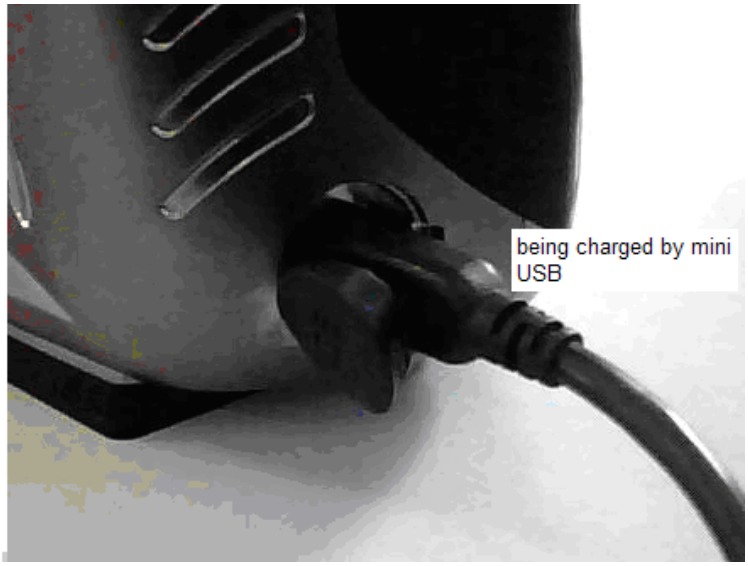
5) Forbidden to use damaged battery pack. The battery pack with electrolyte leaking or smelling should be away from fire in order to avoid firing or explosion. He should be washed with water and sent to see a doctor immediately in case of the leaked electrolyte caught skin, eyes, or other part of body.

12.2 DEVO-12 battery charging

DEVO-12, which is equipped with build-in charging circuit, is powered by 3.7V 3000mAh Lithium Polymer battery. It begins to charge when the output pin of the assorted power adapter is inserted into CHG socket, or the normal end of USB connecting line is connected to the computer USB interface, and the mini end is inserted into USB in the side face of DEVO.

Charging connection is shown as below:





English	Your language
CHG charging socket	
USB charging socket	
Being charged by adapter	
Being charged by mini USB	

12.3 Voltage parameters

Output of assorted power adapter …….. 5.0V 2000mA

Maximum current of CHG socket ……700mA

Maximum current of USB interface …….350mA

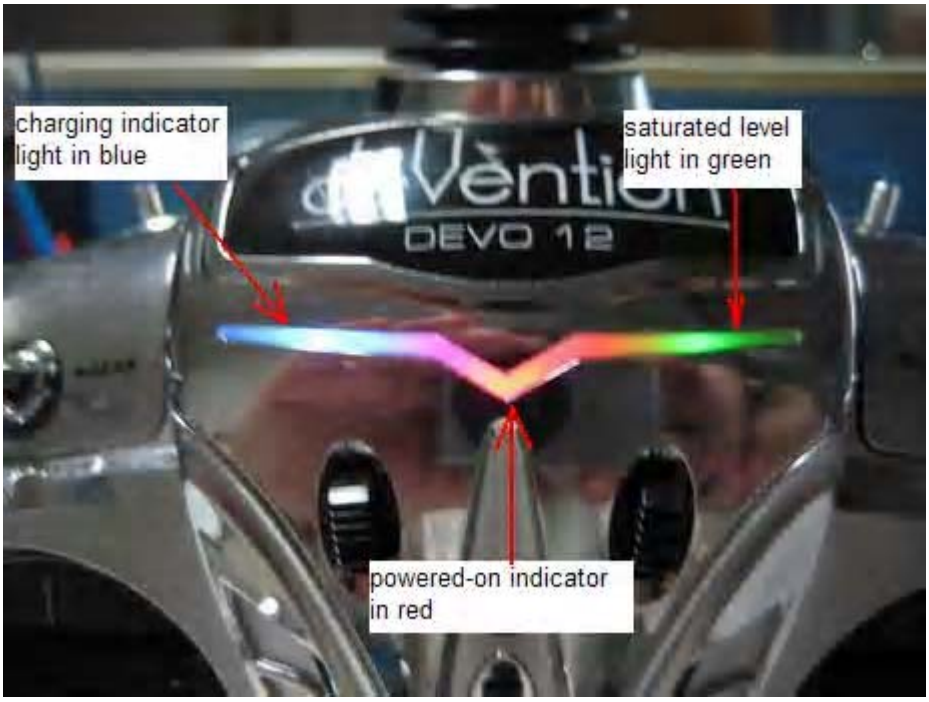
12.4 Indication for charging status

There is a slim V-shape indicator light at the top center of DEVO-12. It indicates three different working statuses from left to right:

0.1) Charging indicator light: blue light is lighting;

0.2) Power-on status of DEVO-12: red light is lighting;

0.3) Saturation level of charge: green light is lighting when the battery pack is unsaturated; green light is extinguished when saturated.



English	Your language
Charging indicator light in blue	
Power-on indicator light in red	
Saturation level light in green	

1) Charging at power-on status:

1.1) Charging indicator light: blue light is always lighting;

1.2) Power-on indicator light: red light is always lighting;

1.3) Saturation level indicator light: the green light is always lighting if the battery pack is unsaturated; the green light is extinguished if saturated.

2) Charging at power-off status:

2.1) Charging indicator light: blue light is always lighting;

2.2) Power-on indicator light: red light is extinguished;

2.3) Saturation level indicator light: the green light is lighting when the battery pack is unsaturated; green light is extinguished when saturated.

Part two: Helicopter

1.0 System menu

All the functional settings, which are relative to the operation systems of DEVO-12 itself, are wholly integrated in System Menu. They include Language, Skin, Display, Buzzer, Date & Time, TFT Screen, Stick Mode, Stick & Lever，Power Amplifier, and

About.

Below is the boot screen for helicopter:

	English	Your language		English	Your language
1	Throttle trim		11	Dual rate & exponential	
2	Elevator trim		12	Model menu icon	
3	PIT hover trim		13	Gyro sensor icon	
4	Flight mode		14	System menu icon	
5	Timer		15	Function menu icon	
6	PIT percentage value		16	Model name	
7	Throttle percentage value		17	Battery volume display	
8	Throttle curve icon		18	Time display	
9	Pitch curve icon		19	Transmission power display	

10	Rudder trim		20	Throttle hover trim	

1.1 Language setting

Touch the shortcut icon to enter System Menu and then touch to enter the interface of Language. Touch the language that you want to select. A “√” will be shown on the screen after selected.

Then touch to save and exit.

1.2 Skin selection

DEVO-12 offers three skins for your selection.

Touch to enter System Menu and touch to enter Skin.

Touch the skin you desire and then touch to exit.

1.3 Display

Touch the shortcut icon to enter System Menu and then touch the icon

to enter “Display”.

Five items are available to be set. Below are the setting methods for them:

1) LCD brightness: it is possible to increase or decrease the LCD brightness by touching the navigation marks. The power consumption will be increased if the LCD is too bright and the battery cruise duration will also be shortened.

2) LCD contrast: the contrast is adjustable by touching the navigation marks. The power consumption will be increased if the contrast is too high and the battery cruise duration will be shortened.

3) Backlight lightness: the backlight lightness is adjustable by touching the navigation marks. The power consumption will be increased if the backlight lightness is too bright and the battery cruise duration will be shortened.

4) Backlight time out: it is possible to set the duration which LCD stays at highlight in the form of “Always on” or any period from 5 to 60 seconds with an interval of 5 seconds.

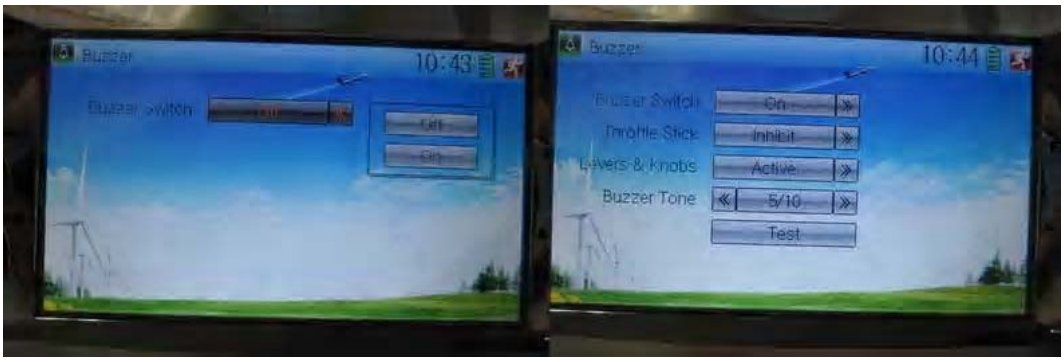
5) Power save time: it can adjust the duration which turns off the backlight light in order to prolong the battery cruise time. The setting status contents Always on and 30 grades with an interval of 1 minute.

Touch to exit.

1.4 Buzzer warning

Touch the icon to enter System Menu and then touch

to enter the interface of Buzzer interface.



1) Buzzer switch: touch the navigation mark at Buzzer Switch and pop up an alternative item: Off and On. If touching On, a drop-down menu is shown at the right upper.

2) Throttle stick buzzer: if Throttle Stick is set as “Active” while Buzzer Switch at On, a relative musical scale change will be made when moving the throttle stick. You can judge the position of the throttle stick according to the different musical scales. It can also be set as “Inhibit” to silence the musical scales.

3) Levers and knobs buzzer: under the condition that this item is set as “Active”, DEVO-12 will sound when rotating or moving such levers or knobs as AUX2, AUX3, AUX4, AUX5, AUX6, and AUX7 to their neutral positions. It can also be set as “Inhibit” to silence the musical scales.

4) Buzzer tone: the tone is composed of 10 grades. You can choose the favorite one according to your interests. Touch Test to make a listening test.

Touch to exit after finished.

1.5 Date & Time

Touch the icon to enter System Menu and then touch

to enter the item of “Date & Time”.

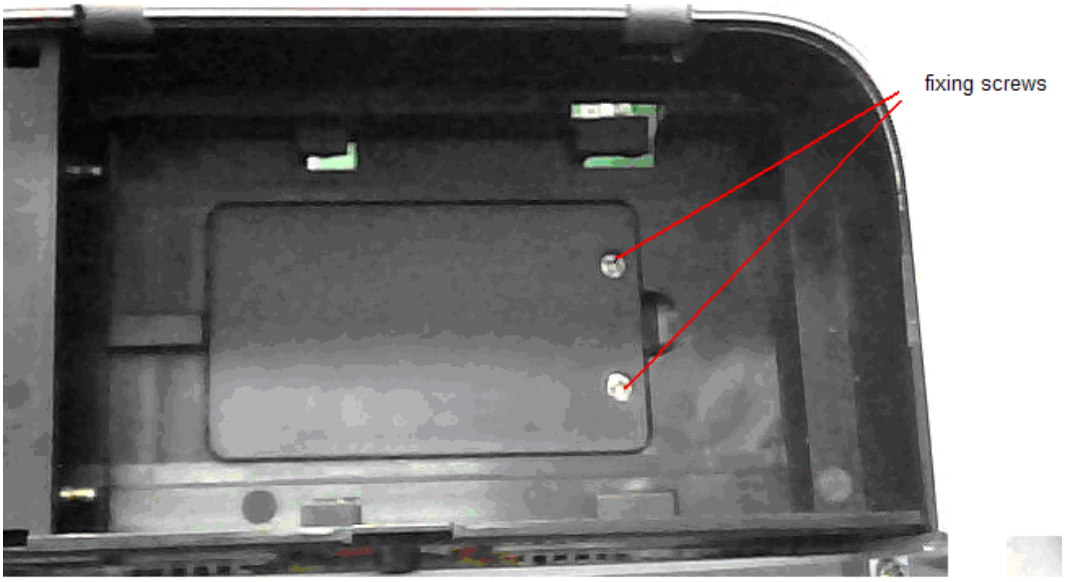
The clock setting is grouped into Year, Month, Day, and Time. Touch the navigation marks, respectively, to make modifications.

Touch to save and exit.

Note: if incorrect turn-on or production time appears, one possibility is that the power supply for the clock is not enough. Replacing a new button cell is a must.

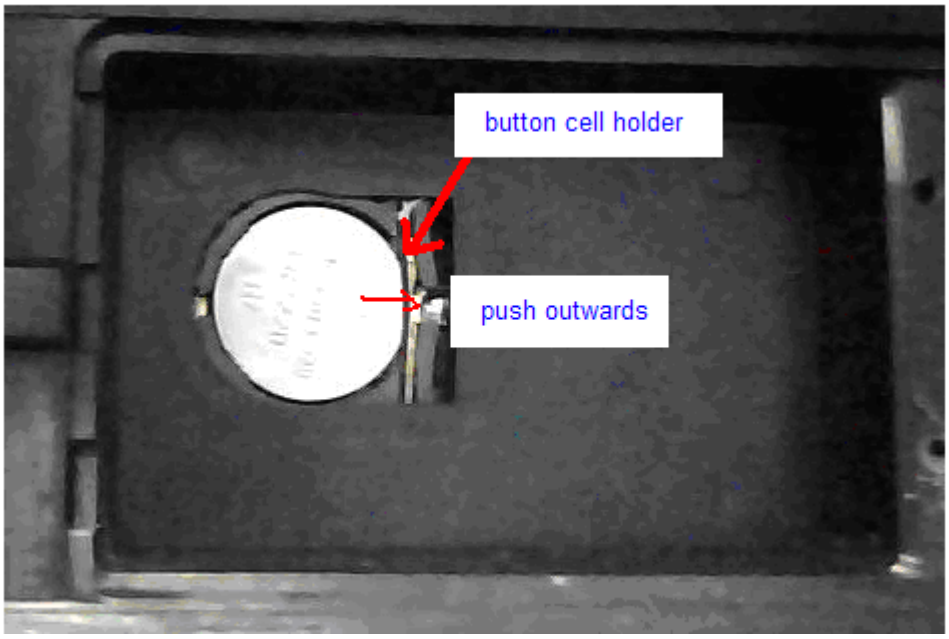
The method for changing button cell:

Turn off the power of your DEVO-12 and take off its battery pack. Use a cross screwdriver to remove the two fixing screws on the fixing board.



English	Your language
Fixing screws	

Push outwards the button cell holder, and the button cell will automatically pop up. Replace the old cell with a new one.



Cell size: CR 1220 3V

English	Your language
Button cell holder	
Push outwards	

1.6 TFT screen calibration

Touch the icon to enter System Menu and then touch to enter the interface of TFT Screen Calibration.

Click anywhere on the screen to start calibration with the touch pen, and then follow the indication to calibrate. It will automatically return to System Menu after the calibration is finished.

1.7 Stick mode

Touch the icon to enter System Menu, and then touch the icon to enter the interface of Stick Mode.

There are four stick modes from MODE 1 to MODE 4. Select the stick mode you desire and then touch the icon to exit.

1.8 Stick and lever

Touch the icon to enter System Menu and then touch the icon to enter the interface of Stick and Lever. There are two items in the interface: Stick Direction and Stick & Lever Calibration.

1) Stick direction: there are four options: Elevator, Aileron, Throttle, and Rudder. Click the item, which you want to reverse, to change the output direction of the

stick. The default setting is Normal.

2) Stick & lever calibration: if variance happened in sticks or levers, it would be calibrated via this option.

Method for calibration:

Click the display item of Start to enter the status of calibration, and Start will be turned into Stop.

2.1) Stick calibration: Clockwise or counter clockwise mechanically move the right stick and left stick from their minimum levels to their maximum levels several times, and then return the sticks to the neutral positions, respectively.

2.2) Lever calibration: mechanically move the levers of AUX2, AUX3, AUX4, and AUX5, respectively, from the minimum level to the maximum level several times, and then return to the neutral positions, respectively.

2.3) Click the item of Stop. If the calibration is finished, “Calibration success!” will be shown at the lower of the screen. If the calibration is failed, “Calibration error! Please try again!” will be shown instead. It needs to be calibrated again.

English	Your language
Normal	
Reverse	
Stick direction	
Stick & lever calibration	
Start	
Stop	
Calibration success	
Calibration error! Please try again!	

2.4) Re-calibration: directly repeat the said steps 2.1 and 2.2 in the calibration failure interface.

Touch the icon to exit.

1.9 Power amplifier

The transmission output power of DEVO-12 is adjustable. It is divided into six grades from small to big. The lower the transmission output power transmits, the shorter the radio range is, and the longer the stand-by time will be. The higher the transmission output power, the farer the radio range, and the shorter the stand-by time. Choose the appropriate transmission output power according to the actual situation.

Setting method:

Touch the icon to enter System Menu and then click to enter the interface of Power Amplifier.

Choose the appropriate output power level and then touch to exit.

1.10 About

Touch the icon to enter System Menu and then touch to get access to the interface of About. You can check the versions of hardware and software.

Click the icon to exit.

2.0 Model menu

Model Menu manages all the model data saved in DEVO-12. It includes Model Select, Model Name, Model Copy, Model Transmit, Model Receive, Model Reset, Type Select, Trim System, Stick Position, Warning, Device Select, Device Output, Swash Type, and Fixed ID.

2.1 Model select

Touch the icon to enter Model Menu and then click the icon to enter the interface of Model Select.

Click the model you desired. The selected model will be temporarily changed into orange color. Then click the icon to exit.

2.2 Model name

In the menu of Model Name, you can make a desired name for your model for long term storage. Its data can be directly withdrawn in next flights.

Repeat the step “2.1 Model Select” to choose the model you want to name or save. And then touch the icon to exit.

Click the icon to enter System Menu and then click the icon to get the interface of Model Name. The following is the interface:

Click the right blank frame of Name and a gray stripe will be shown in the frame.

Touch the return key to clear up the old name.

English	Your language
Gray stripe	

Touch the soft keyboard to input a new name. It is possible to switch between lowercase and uppercase by clicking the key

.

Then touch to exit.

2.3 Model copy

Touch the icon to enter Model Menu and click to enter Model Copy.

Choose the model you want to be copied as source model. The serial No. and model name of Source Model will be shown in the left side of the interface.

Then touch the model in the right list where you want to locate the source model. The serial No. and name of the model you chose are shown under Dest Model in the lower left of interface as well as an enquire “Are you sure?” is popped up.

Click OK to copy. Otherwise click Cancel. Then the interface will automatically return to Model Menu. Click to save and exit.

2.4 Model wireless copy

The model data between two DEVO-12 equipments can be wirelessly copied via Model Transmit and Model Receive in Model Menu

1) Model transmission

Touch the icon to enter Model Menu and then continue to click the icon to enter Model Transmit.

Choose the source model which will be transmitted. The serial No. and name of the source model will be shown under Select Model in left side of the interface as well as enquiry information “Are you sure?” in the right side.

Click OK for transmission or Cancel for rejection. Enquiry information

“Transmitting ……” appears after clicking OK. Touch the icon to exit.

2) Model receiving

Touch the shortcut icon to enter Model Menu and then touch the icon to enter the interface of Model Receive. Enquiry information “Are you sure?” is shown in the center of the interface.

Click Ok for receiving or Cancel for rejection. “Connecting ……” and “Receiving ……” will be shown in series in the interface. The information of “Received” with the model name will be shown in left side after receiving is finished.

Choose the save position in the right name list. Enquiry information “Are you sure?” is shown after clicking the save position. Click OK for save and the current interface will automatically return to Mode Menu. Click Cancel for rejection.

Touch the icon to exit.

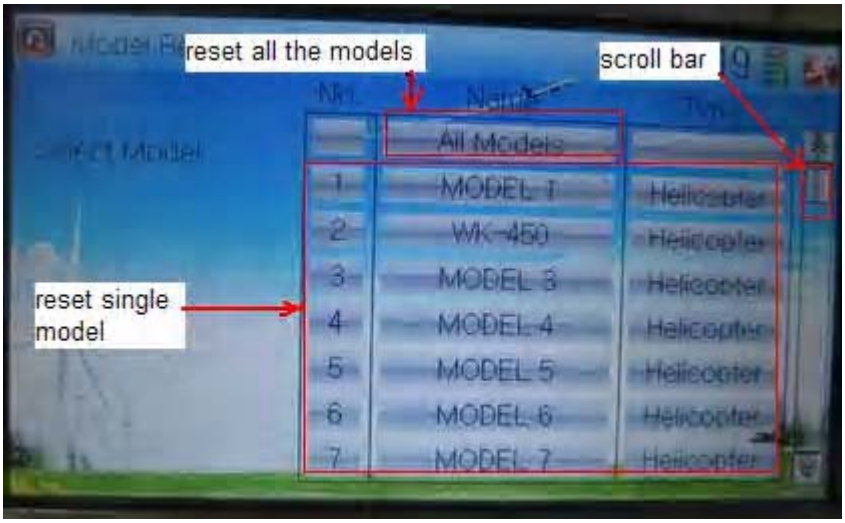
2.5 Model reset

All the model data can be restored to factory settings via Model Reset.

Touch the icon to enter Model Menu and then click

to enter Model Reset.

It is possible to store 60 models data in the model list of DEVO-12 equipment. There are two methods to reset the model data: batch reset and single reset.

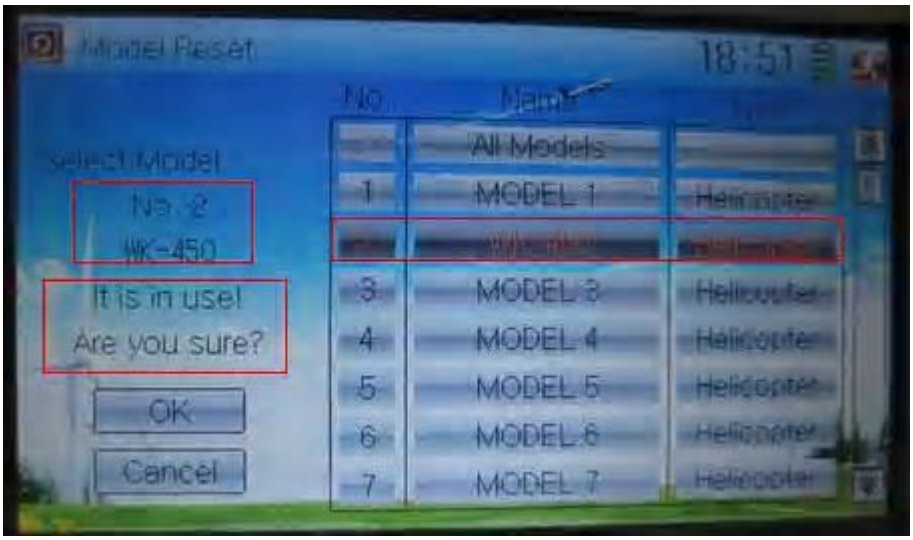


1) Method for batch reset:

Touch ‘All Models’ in Model Reset interface. Then ‘’All Models” and enquiry “Are you sure?” appear in the left side. Click OK for reset, or Cancel for rejection.

2) Method for single reset:

Touch the upper or lower navigation mark to move the scroll bar, and then choose the model you want to restore in the model name list. All the selected model’s name, serial No and enquiry “It is in use! Are you sure?” will appear in the left side. Click OK for resetting, or Cancel for rejection.



Click the icon to exit.

2.6 Type select

This device offers three model types menu. They are helicopter, airplane, and glider, respectively.

Touch the icon to enter Model Menu and then click

to enter Type

Select.

Choose the model type and then touch the icon to exit.

2.7 Trim system

Trim System is able to finely tune the following six items, respectively: Elevator, Aileron, Rudder, Throttle, Left Trim, and Right Trim. The trim range is divided into 20 grades (factory default is set at 4). It is convenient to subtly modify the pitch by adjusting the trim range.

Touch the icon to enter Model Menu and then click to enter Trim System.

Touch the corresponding navigation mark to change the trim value. The bigger the trim value is, the bigger the trim range will be.

For elevator, aileron, and rudder, there are two more options: Normal and Limited.

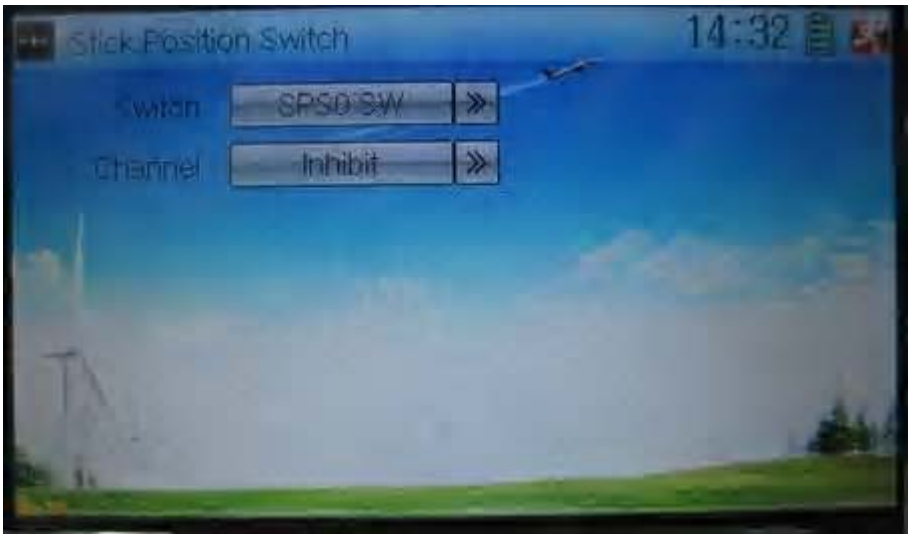
“Normal” means the trim is always working although the corresponding stick stays anywhere. “Limited” means the trim is out of working when the corresponding stick is at maximum position.

2.8 Stick position

The stick can be used as a switch. The turn-on or turn-off position at which the stick stays can also be settable.

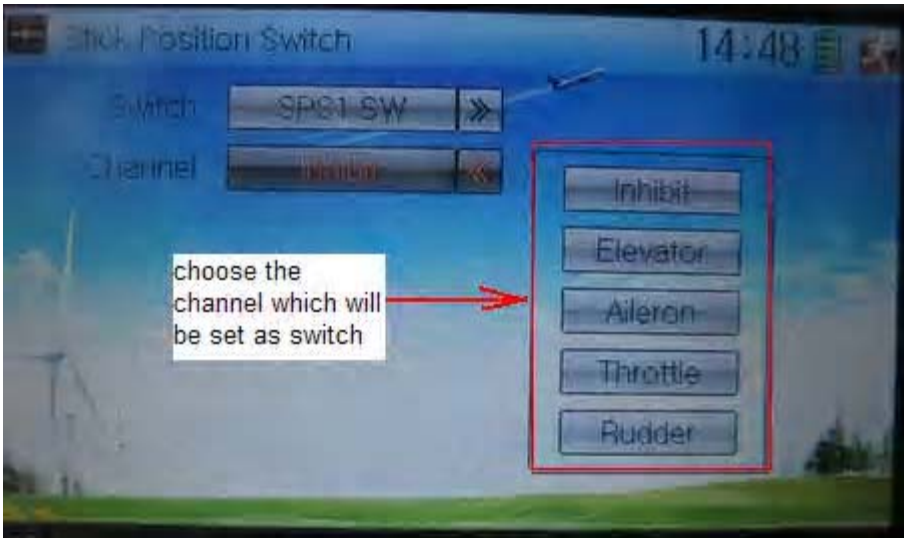
Method for setting:

Touch the icon to enter Model Menu and then click to enter Stick Position Switch.



Click the navigation mark of Switch. It pops up a drop-down menu: SPS0, SPS1, SPS2, and SPS3. Choose the switch you want to define.

Then touch the navigation mark of Channel. It expands into five items: Inhibit, Elevator, Aileron, Throttle, and Rudder. The factory default setting is Inhibit. Choose the stick you want to set as “switch”.



English	Your language
Stick position switch	
Switch	
Channel	
Inhibit	
Elevator	
Aileron	
Throttle	
Rudder	
Choose the channel which will be set as switch.	

At the same time, “Position” and the status of turn-on or turn-off appear under the item Channel. The current status of turn-on or turn-off will be shown in the form of On or Off on the right top corner.

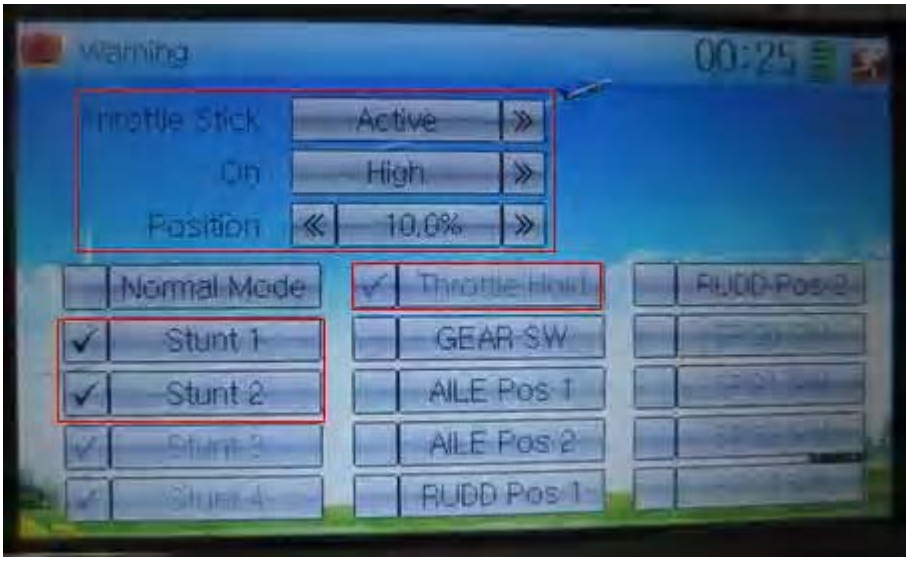
English	Your language
Switch status	
“Position” and switch status appear under “Channel”	

Click the icon to exit after the setting finished.

2.9 Warning

This function can set the warning for unsafety of which stick, switch status, or flight mode stays at the position while turning on the device, or is used as start-up warning in special purpose.

In factory, Throttle Stick is set as Active, High direction at 10.0% Position, flight mode as Stunt, and Throttle Hold at on position.



Touch the icon to enter Model Menu and then click to enter the interface of Warning.

Setting method:

1) setting Throttle stick as warning

Click the navigation mark of Throttle Stick in the interface of Warning. It expands into Inhibit and Active. If Inhibit clicked, the dropdown menu is retracted. If Active clicked, it will expand into two sub items: On and Position.

The throttle stick can be set at high or low position when startup is warning, via clicking the navigation mark of On. The warning level can be set by changing the percentage in Position, whose setting value is ranged from 0.0 to 100.0%.

Take the right-hand throttle as an example. Position is 0.0% when the throttle stick is at the lowest position; Position is 100.0% when the throttle stick is at the highest position. In factory, Throttle Stick is set as Active, Position in High direction at 10.0%.

2) setting other items

Other flight modes and switches warning is shown in the lower-middle part of the interface. Click the corresponding items you want to use. The factory default setting includes Stunt 1, Stunt 2, Stunt 3, Stunt 4, and Throttle Hold.

Click to exit.

2.10 Device select

This setting can help you configure various functional switches, or adjust levers. It includes Flight Mode Main Switch, Flight Mode Extra Switch, Stunt Trim Select, Throttle Hold Switch, Hovering Pitch, and Hovering Throttle.

Setting method:

Touch the icon to enter Model Menu, and then click the icon to enter Device Select.

1) Flight Mode Main Switch

Touch the navigation mark of Flight Mode Main Switch and expand into a dropdown menu, where to choose the mode switch you desire. The factory default setting is FMOD SW.

2) Flight Mode Extra Switch

Refer to “Flight Mode Main Switch”.

3) Stunt Trim Select

There are two modes: Common and Flight Mode. In Common mode all the trim values, which various sticks are corresponding to, put equally effects on all the flight modes.

In Flight Mode, the trim value, which each stick is corresponding to, puts independently effect on the corresponding stick. The factory default is Common.

4) Throttle Hold Switch

Refer to “Flight Mode Main Switch”.

5) Hovering Pitch

Refer to “Flight Mode Main Switch”.

6) Hovering Throttle

Refer to “Flight Mode Main Switch”.

2.11 Device Output

Device output is composed of eight items. It can set up output switches and select the usage of levers, respectively. It can also activate, inhibit or use other functions.

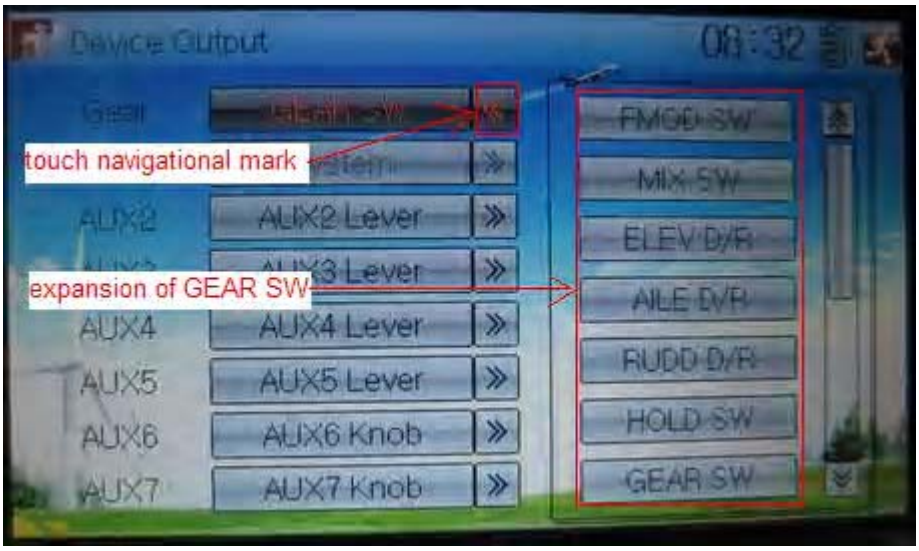
Setting method:

Touch the icon to enter Model Menu and then click to enter the interface of Device Output.

There are eight adjustable items. They are Gear, Pitch, AUX2, AUX3, AUX4, AUX5, AUX6, and AUX7, respectively. The setting methods for them are shown below:

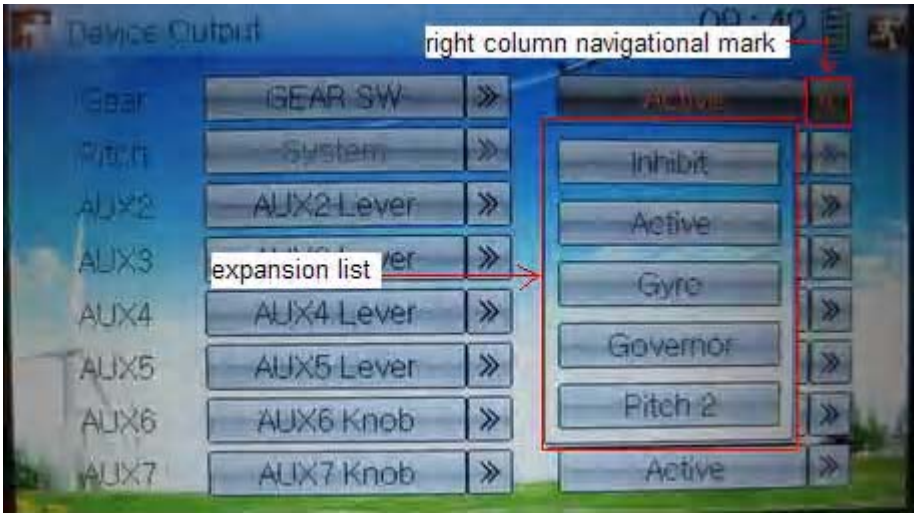
1) Gear

Touch the left column navigation mark of Gear and pop up an expansion list including FMOD SW, MIX SW, ELEV D/R, AILE D/R, RUDD D/R, HOLD D/R, and GERA SW. Touch the desired item. The default setting is GEAR SW.



English	Your language
Touch navigation mark	
Expansion of GEAR SW	

Touch the right column navigation mark of Gear. Pop up an expansion list including Inhibit, Active, Gyro, Governor, and Pitch 2. Touch the desired item. The default setting is Active.



English	Your language
Right column navigation mark	
Expansion list	

1) Pitch

The item is programmed as system default. Any setting is unavailable.

2) AUX 2

Touch the left column navigation mark of AUX 2. Pop up an expansion list including SPS0 SW, SPS1 SW, SPS2 SW, SPS3 SW, Left Trim, Right Trim, and AUX2 Lever. Touch the desired item. The default setting is AUX2 Lever.

Touch the right column navigation mark of AUX 2, and expands a list including Inhibit, Active, Gyro, Governor, and Pitch 2. Click the desired item. The default setting is Active.

Then continue to set other items.

3) AUX 3

Touch the left column navigation mark of AUX 3, and expands a list including AUX3 Lever, AUX4 Lever, AUX5 Lever, AUX6 Knob, AXU7 Knob. Touch the desired item. The factory default setting is AUX3 Lever.

Click the right column navigation mark of AUX3, and see a expansion list including Inhibit, Active, Gyro, Governor, and Pitch 2. Choose the desired item. The factory fault setting is Active. Then continue to set up other items.

4) AUX 4

Refer to “4) AUX 4”.

5) AUX 5

Refer to “4) AUX 4”.

6) AXU6

Refer to “4) AUX 4”.

Click the icon to exit.

2.12 Swash type

The swash type is grouped into six options: 1 Servo Normal, 2 Servos 180°, 3 Servos 140°, 3 Servos 140°, and 4 Servos 90°.

Setting method:

Touch the icon to enter Model Menu, and then click the icon to enter the interface of Swash Type.

Choose the desired swashplate and then click the icon to exit.

2.13 Fixed ID

This setting will bind DEVO-12 and its receiver in a unique corresponding relationship. It will greatly speed up the time of automatic binding when DEVO-12 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 the interface of Fixed ID by touching the icon

.

English	Your language
Navigation mark	

Touch the navigation 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.

English	Your language
Touch “On”	
A series of random digits is shown here	

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

English	Your language
Mini soft keyboard	

The new ID digits can be modified by touching the mini soft keyboard. Then touch Match after the new ID is already set. An enquiry interface of “Are you sure?” pops up. “ID Code Match … …” will be shown after touching OK.

English	Your language
ID Code Setting	
ID Code	
Fixed ID	
Are you sure?	
Cancelled	
ID Code Match	

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 one of the other output terminals. The

red light of receiver will flash slowly. This means the fixed ID code has been cancelled. Pull out BIND PLUG.

DEVO-12 also needs to make relative cancellation and reversion after the fixed ID in receiver is cleared out.

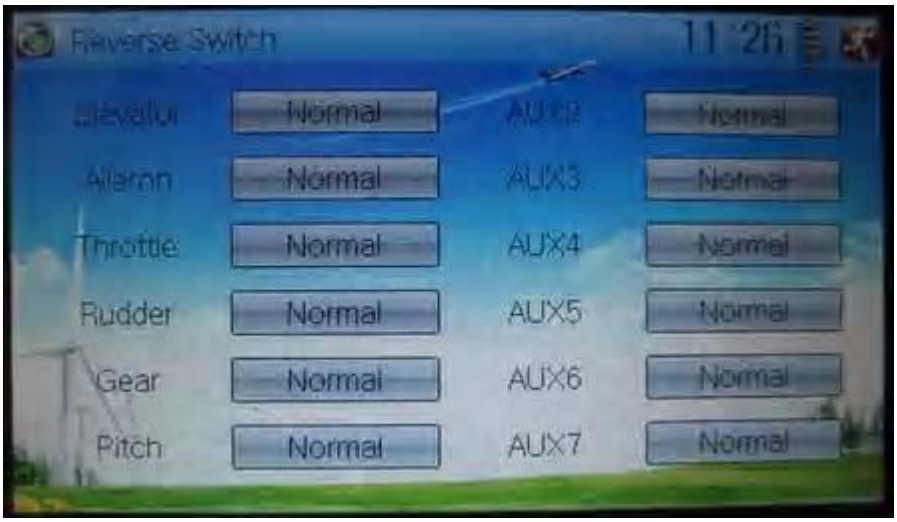
In the main interface touch the icon to enter Model Menu and then touch to enter Fixed ID. Touch ID Code Setting to expand the navigation mark into two statues On and Off. Touch Off. Then touch to exit.

3.0 Function Menu

Function Menu can help you make customizedly adjustments for the selected models. The menu includes such items as Reverse Switch, Travel Adjust, Sub Trim, Dual Rate and Exponential, Throttle Hold, Throttle Curve, Mix to Throttle, Gyro Sensor, Governor, Tail Curve, Dual Pitch, Swash Mix, Pitch Curve, Program Mix, Monitor, Fail Safe, Trainer, and Timer.

3.1 Reverse Switch

Touch the shortcut icon to enter Function Menu, and then click to enter the interface of Reverse Switch.



The statues of total 12 channels are shown in the interface. Touch the relative channel

for Normal or Reverse switch. The default setting is Normal.

Click the icon to exit.

3.2 Travel adjust

Touch the icon to enter Function Menu and then click to enter the interface of Travel Adjust.

Touch the navigation mark of the desired item to increase or decrease the servo travel rang. The adjustment range is from 0.0% to 150.0%. The factory default is 100.0%.

Click the icon to exit.

3.3 Sub Trim

Sub Trim can parallel to move the neutral point of the servo. But we advise you to adjust the servo bell crank if offset is far away from the neutral point of servo, because excessive usage of the sub trim, out of its range, may damage the servo.

Setting method:

Touch the icon to enter Function Menu and then click to enter Sub Trim.

It is possible to change the servo neutral point by touching the navigation mark of the desired item to amend the percentage. The default for each channel is 0.0%. The following chart shows you the adjustment range of each channel:

	English	**Your language**	**English**	**Your language**
	Channel name		Adjustment range	
1	Elevator		D62.5%-U62.5%	
2	Aileron		R62.5%-L62.5%	
3	Throttle		L62.5%-H62.5%	
4	Rudder		R62.5%-L62.5%	
5	Gear		-62.5%- +62.5%	
6	Pitch		L62.5%- H62.5%	
7	AUX2		-62.5%- +62.5%	
8	AUX3		-62.5%- +62.5%	
9	AUX4		-62.5%- +62.5%	
10	AUX5		-62.5%- +62.5%	
11	AUX6		-62.5%- +62.5%	
12	AUX7		-62.5%- +62.5%	

Touch to exit.

3.4 Dual Rate and Exponential

After this function is set up, it is possible for D/R switches to control the dual rates of elevator, aileron, and rudder, respectively. The setting range is covered from 0% to

125%. Under the help with exponential curve adjustment, it is possible to make both customized settings and automatic settings.

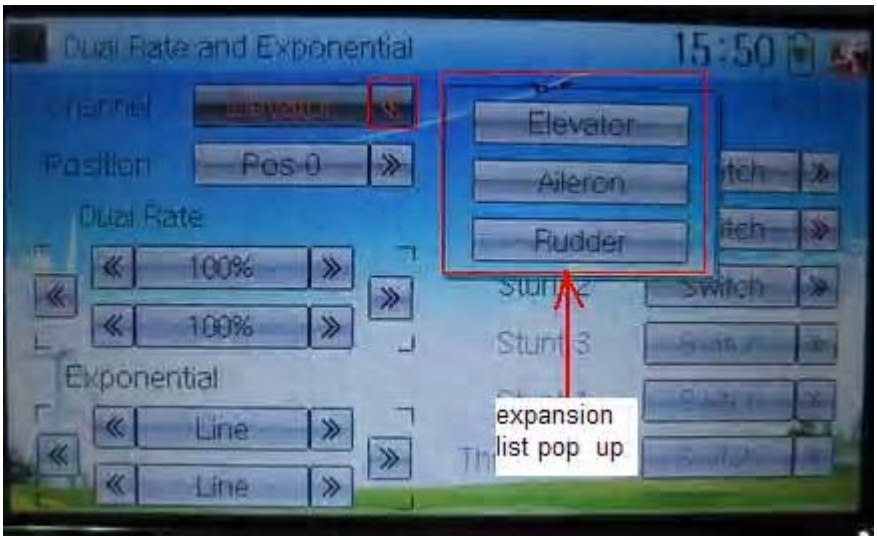
The switch between Dual Rate and Exponential can be performed via pushing or pulling the Flight Mode lever.

Setting method:

Touch the icon to enter Function Menu and then click to enter the interface of Dual Rate and Exponential.

1) Channel selection

Touch the navigation mark of Channel. An expansion list pops up, which contents Elevator, Aileron, and Rudder. Choose the desired channel for setting.

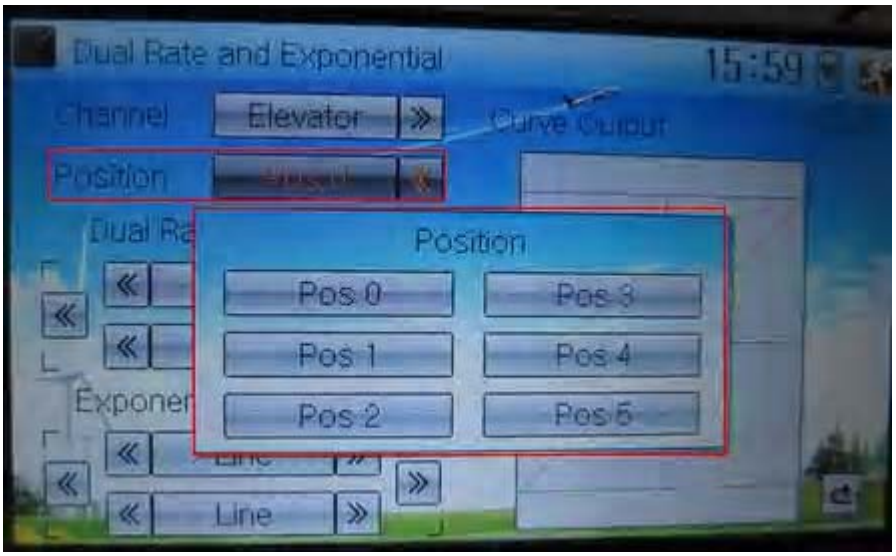


English	Your language
Expansion list pops up	

2) Position selection

Touch the navigation mark of Position. An expansion list pops up, where there are six points for you choosing from Pos0 through 5. Chose the position you want to set. The

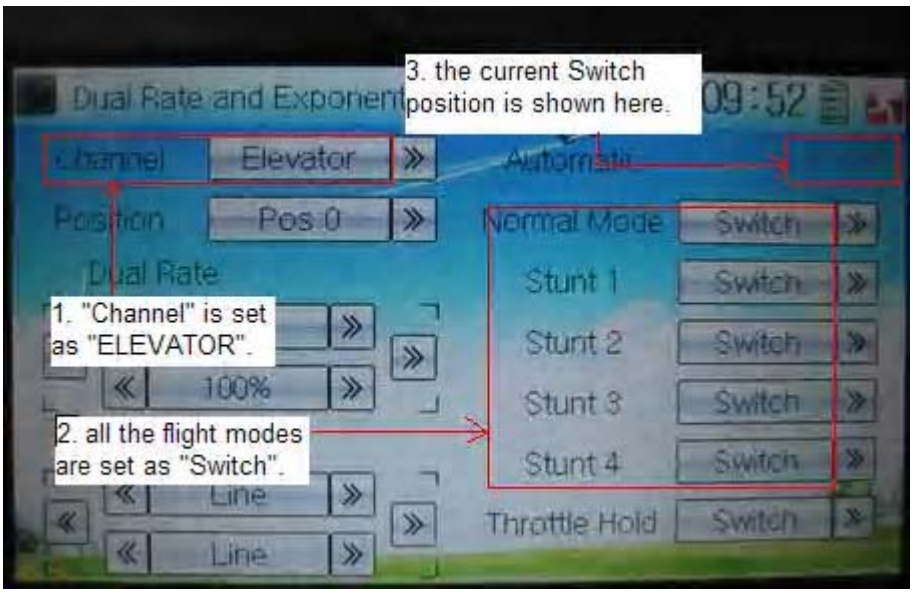
chosen point will be shown in the frame of the item Position.



In manual mode, the function of Dual Rate and Exponential will be executed by the corresponding dual rate switch among Pos 0, Pos 1, and Pos 2.

Take the item Elevator at Channel as the example. All the flight modes, shown in the right column, are set as “Switch”. Then if we move the lever of ELEV D/R, the switch will be taken place among Pos 0, Pos 1, and Pos 2.

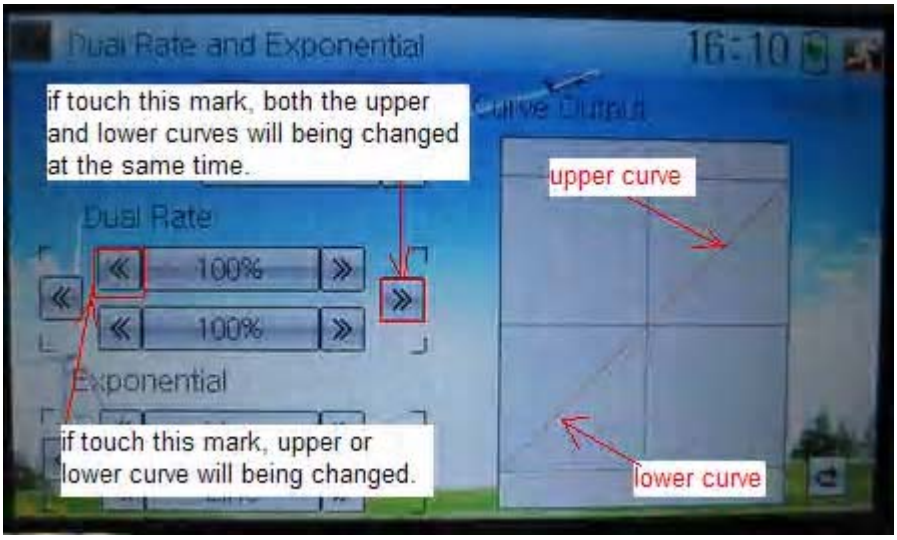
If moving the lever ELEV D/R (shown above), switch will happen among Pos 0, Pos 1, and Pos 2 (shown below).



English	Your language
ELEV D/R	
“Channel” is set as “Elevator”	
All the flight modes are set as “Switch”	
The current Switch position is shown here	

3) Dual Rate adjustment

It is possible to modify the dual rate value by touching the navigation mark of Dual Rate.



If touching the navigation mark for just one item to amend the dual rate value, the dual rate of the corresponding servo will be changed in one direction, while the curve will being changed in one direction at the right graph.

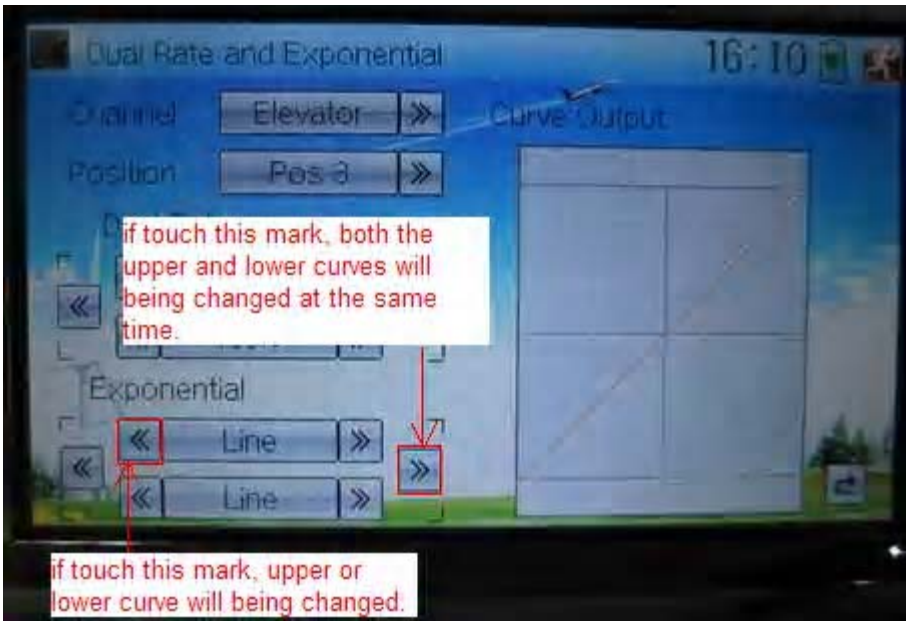
If touching the navigation mark for both items to amend the dual rate value, the dual rate of the corresponding servo will be changed while the curve will being changed at the same time, shown at the right graph. The default setting is 100%.

English	Your language

Upper curve	
Lower curve	
If touch this mark, both the upper and lower curves will being changed at the same time.	
If touch this mark, upper or lower curve will being changed.	

4) Exponential adjustment

It is possible to adjust the exponential output value of the servo at that point, which is set up in step “2) Position selection”, by touching the navigation mark of Exponential.



If touching the navigation mark for just one item to amend the dual rate value, the dual rate of the corresponding servo will be changed in one direction, while the curve will being changed in one direction at the right graph.

If touching the navigation mark for both items to amend the dual rate value, the dual rate of the corresponding servo will be changed while the curve will being changed at the same time, shown at the right graph. The default setting is Line.

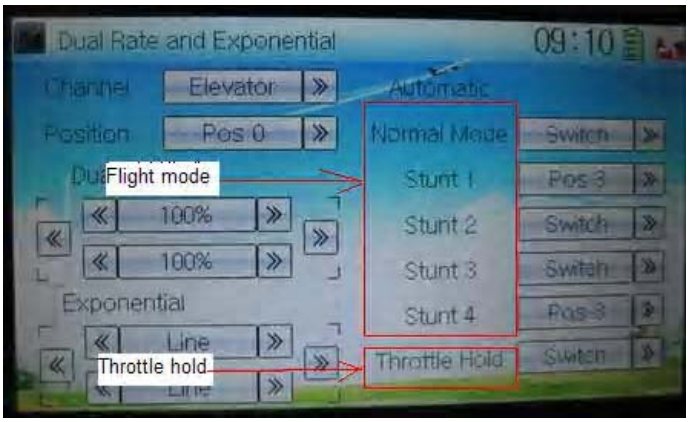
Then touch this mark to return to the interface of Dual Rate and Exponential.

5) Automatic setting

Under working with Flight Mode, it is possible to switch the dual rate and exponential, which are set in above “3) Dual Rate adjustment” and “4) Exponential adjustment”, respectively.

The settings for Normal Mode, Stunt 1, Stunt 2, Stunt 3, Stunt 4, and Throttle Hold are available. But for Stunt 3 and Stunt 4, Flight Mode Extra Switch at Device Select in Mode Menu should be activated (Refer to “2.10 Device Select”), and Throttle Hold in Function Menu should be set as “Active” (Refer to “3.5 Throttle Hold” below).

Touch the flight mode that you want to set as automatic operation, and an expansion list will be shown. Click the desired position. If Switch is selected, it is only controlled by the corresponding dual rate lever.



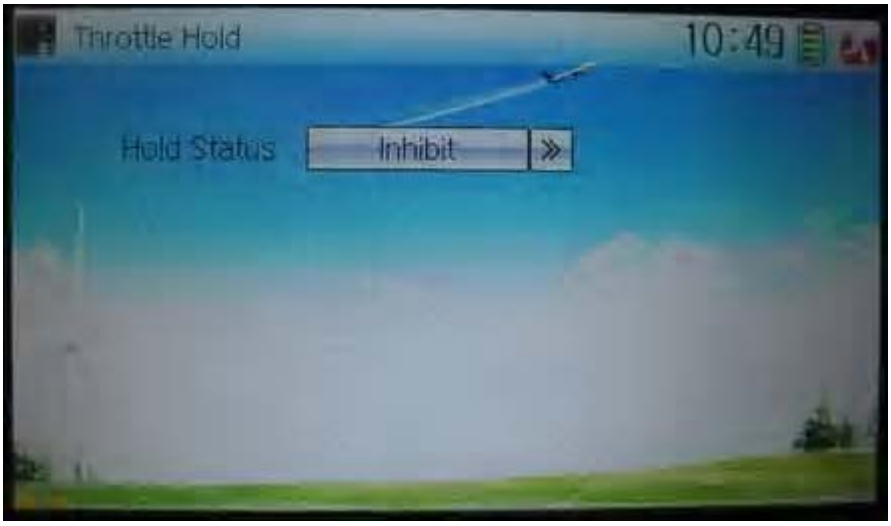
Click the icon to exit.

3.5 Throttle hold

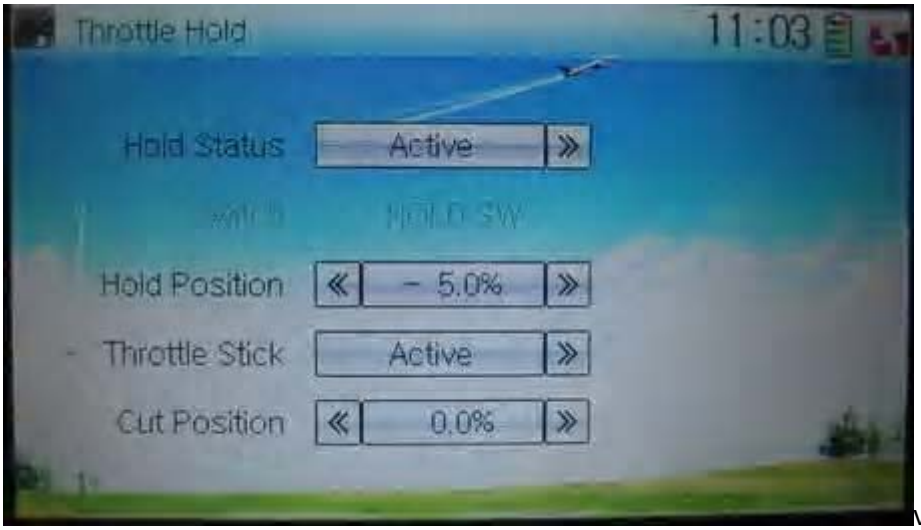
If this function is set, the switch will be executed by hold switch. The setting value of throttle hold is ranged from -20.0 to 50.0。

Setting method:

Touch the shortcut icon to enter Function Menu, and then click to enter the interface of Throttle Hold.



Touch the navigation mark of Hold Status, and an expansion list will be shown as Inhibit and Active. Click Active, there appeared Switch, Hold Position, and Throttle Stick in the following interface.



vv

1) Setting for Switch

This item is impossible to be set. The default setting is HOLD SW.

2) Setting for Hold Position

Touch the left navigation mark of the item Hold Position to decrease the position amount, whose minimum is -20.0%; touch the right to increase the position amount whose maximum is +50.0%.

3) Setting for Throttle Stick

Given the function is used. If the throttle hold lever is turned on, it is possible to set the throttle stick as the switch that enters the status of throttle holding.

Setting method:

Touch the navigation mark of Throttle Stick and an expansion list will be shown as Inhibit and Active. Click Active and pop up a dropdown menu of Cut Position.

Touch the left navigation mark of Cut Position to decrease the amount whose minimum is 0.0%; touch the right mark to increase the amount whose maximum is 100.0%.

Under the throttle hold turned on (pull the throttle hold lever forward), when moving the throttle stick to the point set by Cut Position from high position to low position, the throttle enters the locked status. That means the throttle is locked at the point set by Hold Position.

If pushing the throttle hold lever, the throttle locked status is released.

Click the icon to exit after all the settings are finished.

3.6 Throttle curve

Throttle curves are adjusted through nine points, which of all the flight modes can be

respectively set. The flight mode includes Normal Flight, Stunt 1, Stunt 2, Stunt 3, and Stunt 4 while Flight Mode Extra Switch in Device Select should be activated (Refer to “2.10 Device Select”).

Setting method:

Touch the shortcut icon to enter Function Menu, and then click the icon

to enter the interface of Throttle Curve while an enquiry dropdown is shown “All Servos Hold?” If click OK, all the servos will be locked at the current status; if click Cancel, all the servos will not be locked at the current status. Enter the following interface after clicking OK or Cancel.

1) Adjustment for Exponential

Touch the navigation mark of Exponential and expand an option dropdown: Off and On. The throttle curve will be changed smoothly if touching On, or in fold line if clicking Off.

2) Curve Setting

It includes two items: Point, and Output.

2.1) Adjustment for Point

Touch the navigation mark of Point and an expansion list including nine points is shown. Click the point which you want to adjust.

2.2) Status adjustment

Touch the navigation mark of Status and drop down a menu including Inhibit and Active. Click Inhibit if you don't amend the amount of the selected point which is set in "2.1 Adjustment for Point" (the factory default setting is Inhibit). Click Active if you want to amend the amount of the said point, and an expansion list including Output and Hovering is shown below.

2.3) Output adjustment

Touch the left navigation mark of Output to decrease the output amount of the selected point with a minimum of 0.0%; touch the right navigation mark to increase the output amount with a maximum of 100.0%.

2.4) Hovering adjustment

After the setting in "2.3 Output adjustment" is finished, it is necessary to set the item of Hovering as On and all the selected points of the throttle curve should be activated if using throttle trim in flight is a must. The seven points of 1-3, M, 4-7 in the curve will being paralleled up or down with the changing of throttle trim. So the throttle curve will being paralleled up or down with the movements of the seven points.

3) Flight mode

There are total five flight modes: Normal Flight, Stunt 1, Stunt 2, Stunt 3, and Stunt 4, the curve of which can be respectively set in their corresponding flight mode. The setting method is same with "2) Curve Setting" above. Regarding the setting for Flight Mode, please refer to "2.10 Device Select".

Click the icon to exit.

3.7 Mix to throttle

This function can keep the main rotor blades running at the certain revolution caused by the changed load when operating the aileron servo, elevator servo, and rudder servo. Generally this function is advised to use in aerobatic flight.

Setting method:

Touch the shortcut icon to enter Function Menu, and then click

to enter the interface of Mix to Throttle.

If the item of Channel is shown as "Elevator", there are Channel, Switch, Up, and Down in the interface. If the item of Channel is Aileron or Rudder, the contents in the said interface will be changed into Channel, Switch, Left, and Right. Take the example of Channel set as Elevator to illustrate the setting method.

1) Channel setting

Touch the navigation item of Channel and expand three options: Elevator, Aileron, and Rudder. Touch the channel you want to mix.

2) Switch selection

Touch the navigation mark of Switch and pop up a dropdown menu with Always on, Normal Mode, Stunt 1, Stunt 2, Stunt 3, Stunt 4, and GEAR SW. Touch the switch you desire. You can check by

3) Up setting

Touch the left or right navigation mark of Up to decrease or increase the mix amount when moving the throttle stick upwards. The bigger the amount is, the bigger the mix to throttle becomes. Click the left mark and change the amount from “+” to “-” for the throttle mix direction reverting. The adjustable range is ±125%.

4) Down setting

Touch the left or right navigation mark of Down to decrease or increase the mix amount when moving the throttle stick downwards. The bigger the amount is, the bigger the mix to throttle becomes. Click the left mark and change the amount from “+” to “-” for the throttle mix direction reverting. The adjustable range is ±125%.

5) The setting methods are same as above when Channel is shown as Aileron or Rudder.

Touch the icon to exit after finished.

Note:

1) Check the mix amount set above whether or not it reaches the desired flight effect before flying, and all the actions are right in various flight modes.

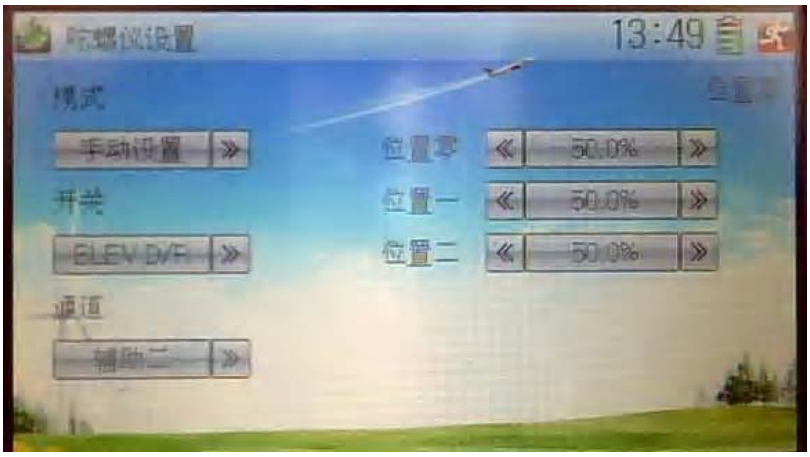
2) It is unnecessary to use this function when Governor is taken to control the revolution.

3.8 Gyro sensor

This function offers the gain adjustment for gyro sensor, which can be manually set through D/R switches or Flight mode switch, and also is possible to be automatically switched various gains through flight mode switch.

Setting method:

Touch the icon to enter Function Menu, and then touch the icon to enter the interface of Gyro Sensor.



A) Manual setting

1) Mode selection

Touch the navigation mark of Mode and expand into two options: Manual and Automatic. Select Manual.

2) Switch selection

Touch the navigation mark of Switch and expand into five articles: FMODE SW, MIX SW, ELEV D/R, AILE D/R, and RUDD D/R.

3) Channel setting

The default setting is AUX 2. It is possible to alter into other channels by choosing in the item of Device Output (refer to “2.11 Device Output”).

4) Gain adjustment

There are total three levels for respective setting: Pos 0, Pos 1, and Pos 2.

4.1) Pos 0

Touch the left or right navigation mark of Pos 0 to decrease or increase the amount, respectively. If the gyro you use has two modes of NOR or AVCS, AVCS will be activated when the amount is above 50.0%. The bigger the amount is, the bigger the gyro sensor gain becomes. The default setting is 50.0%.

4.2) Pos 1

Refer to the step of “4.1) Pos 0”.

4.3) Pos 2

Refer to the step of “4.1) Pos 0”.

B) Automatic setting

1) Mode selection

Touch the navigation of Mode and expand into two options: Manual and Automatic. Select Automatic.

2) Channel output

The default setting is AUX 2. It is possible to alter into other channels in the interface of Device Output (Refer to “2.11 Device Output”).

3） Flight mode selection

All the flight modes are shown in the right interface which includes Normal Flight, Stunt 1, Stunt 2, Stunt 3, Stunt 4, and Throttle Hold.

For Stunt 3 and Stun 4, Flight Mode Extra Switch should be activated in Device Select as well as Throttle Hold Switch is set as HOLD SW (Refer to “2.10 Device Select”).

Click the left or right navigation mark of the flight mode, which you want to automatically adjust, to decrease or increase the amount of gyro gains, respectively. If the gyro you use has two modes of NOR or AVCS, when the amount is less than 50.0%, NOR mode is activated. The lesser the amount is, the bigger the gyro gain becomes. The default setting is 50.0%.

Click the icon to exit after finished.

3.9 Governor

Governor should be set at Device Output (Refer to “2.11 Device Output”).

The control proportion of governor can be separately set in various flight modes. For the absolute revolution amount, please set in external governor. The amount shown in DEVO-12’s governor is just a percentage for reference. The actual revolution should be read in the external governor.

Setting method:

Touch the icon to enter Function Menu, and then click the icon

to enter the interface of Governor.

The output channel, current statuses of flight modes and usable flight modes are shown in the interface. According to the requirement, touch the corresponding flight mode to set the amount. Click the left or right navigation mark to separately decrease or increase the amount. The adjustable range is ± 125%.

The usable flight modes include Normal Mode, Stunt 1, Stunt 2, Stunt 3, Stunt 4, and Throttle Hold.

Click the icon to exit after finished.

3.10 Tail curve

This function is mainly used for amending the reaction torque produced by pitch change of main rotor blades. It is possible to set the mix amount at any hovering point as the benchmark.

The mix amount in various flight modes can be set, respectively;

Setting method:

Touch the icon to enter Function Menu, and then click the icon

to enter the interface of Tail Curve. There will be shown an enquiry of “All Servo Hold?” Click OK for locking the current statues of all servos, and Cancel for unlocking the current statues of all servos.

The interface will show the current status of flight mode, input value, output value，curve graph, and the adjustable items.

1) Flight mode

The current status of flight mode is shown in gray characters.

2) Pitch

Click the navigation mark of Pitch and expand into two options of Normal and Original. Select the desired item.

3) Exponential setting

Click the navigation mark of Exponential and expand into two options of Off and On. The curve will be smoothly changed if touching On. Select the desired item.

4) Curve Setting

The setting is divided into two steps. Firstly choose the point that you want to adjust, and secondly adjust its amount.

4.1) Point setting

Touch the navigation mark of Point and expand into nine points. Click the point which you want to adjust.

4.2) Status setting

Touch the navigation mark of Status and expand into Inhibit and Active. Click Inhibit for unchanging the said point's amount. The default setting is Inhibit.

Click Active for changing the said point's amount, and a dropdown menu of Output is shown below.

4.3) Output setting

Touch the left or right navigation mark of Output to respectively decrease or increase the said point's amount. The adjustment range is from -100% to +100%.

The right curve graph will be changed synchronously when adjusting the said point's amount.

Click the icon to exit after finished.

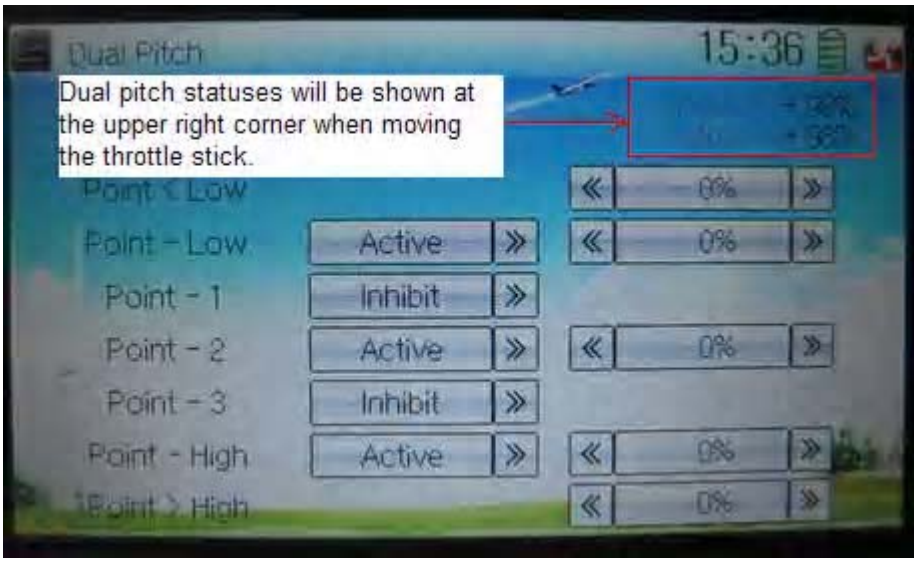
Note: if an AVCS gyro is used, this function is not necessary.

3.11 Dual pitch

The dual pitch function is offered to the helicopter which needs two pitches. Pitch 2 should be selected at Device Output in Model Menu if want to use this function (Refer

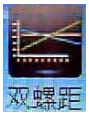
to “2.11 Device Output”).

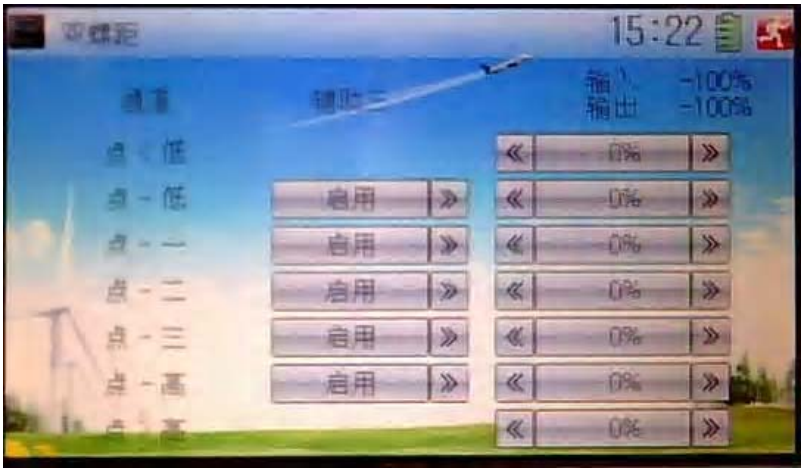
When the function of Dual Pitch is in service, the work statuses, which the dual pitches synchronously change, are shown in the top right. Due to the mechanical cause or servos’ variations, if the dual pitches don’t work synchronously, the output of Pitch 2 can be amended by adjusting the parameters of the seven points offered by Dual Pitch.



English	Your language
Dual pitch statuses will be shown at the upper right corner when moving the throttle stick.	

Setting method:

Touch the icon to enter Function Menu and then click the icon  to enter the interface of Dual Pitch.



Click the navigation mark of the item you want to amend and expand into Inhibit and Active. Click Active for adjustment, and then touch the left or right navigation mark of the item to decrease or increase, respectively, the amount. Minus amount means the amending direction is downward, and plus amount means an upward direction. The adjustment range is ±100%.

Click Inhibit for rejection.

Touch the icon to exit after finished.

3.12 Swash mix

This function is used for amending the variation caused by swashplate movement, when the aileron or elevator is working. It can be executed through flight mode.

Setting method:

Touch the icon to enter Function Menu and then touch the icon to enter Swash Mix. The interface will show the two options of Aileron to Elevator Mix, and Elevator to Aileron Mix. If two servos or more have been selected in Swash Type (Refer to “2.11 Swash Type”), the amount of servos mix and Exponential will be shown in the right.

1) Aileron to Elevator Mix

1.1) the mix amount setting for aileron stick moving to left: touch the left or right navigation mark of the item Left to decrease or increase, respectively, the mix amount. The mix direction can be reverted through altering the plus or minus sign before amount. The adjustable range is ±125%.

1.2) the mix amount setting for aileron stick moving to right: touch the left or right navigation mark of the item Right to decrease or increase, respectively, the mix amount. The mix direction can be reverted through altering the plus or minus sign before amount. The adjustable range is ±125%.

This function can be cancelled through setting the amount as 0%.

2) Elevator to Aileron Mix

2.1) the mix amount setting for elevator stick moving upwards: touch the left or right navigation mark of the item Up to decrease or increase, respectively, the mix amount. The mix direction can be reverted through altering the plus or minus sign before the amount. The adjustable range is ±125%.

2.2) the mix amount setting for elevator stick moving downwards: touch the left or right navigation mark of the item Down to decrease or increase, respectively, the mix amount. The mix direction can be reverted through altering the plus or minus sign before the amount. The adjustable range is ±125%.

This function can be cancelled through setting the amount as 0%.

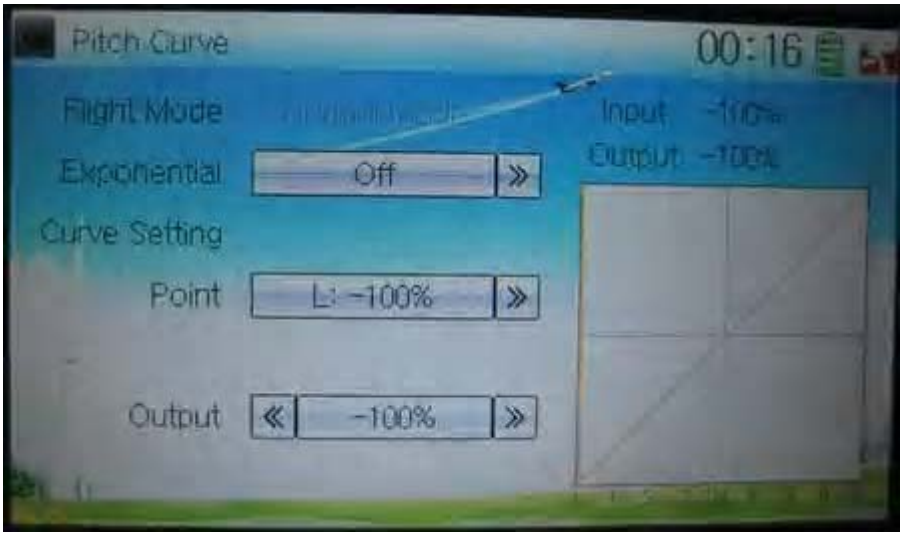
3.13 Pitch curve

Pitch Curve is adjusted in nine points that all the pitch curves in various flight modes can be set up, respectively. The flight mode includes Normal Mode, Stunt 1, Stunt 2, Stunt 3, Stunt 4 (the Flight Mode Extra Switch in Device Select should be chosen. Refer to “2.10 Device Select”), and Throttle Hold.

Setting method:

Touch the icon to enter Function Menu, and then click to enter Pitch Curve. A dropdown pops up “All Servos Hold?”. Click OK for all the servos will be locked at the current status; click Cancel for unlocked.

Enter the next interface after clicking OK or Cancel.



1) Exponential setting

Touch the navigation mark of Exponential to expand into two options Off and On. The

pitch curve will be smoothly changed if clicking On. Otherwise click Off.

2) Curve setting

It includes four sub-items: Point, Status, Output, and Hovering.

2.1) Point setting

Touch the navigation mark of Point and expand into nine points for selection. Touch the point that you want to amend.

2.2) Status setting

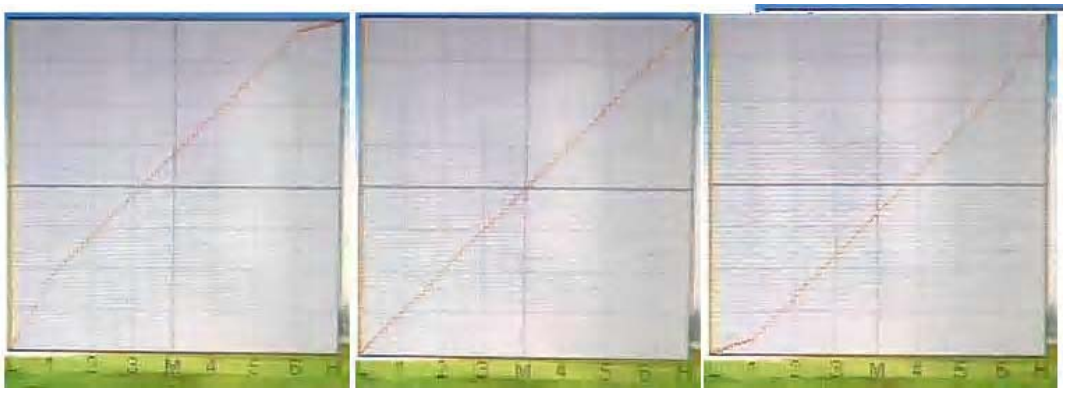
Touch the navigation mark of Status and expand into two options: Inhibit and Active. Click Inhibit for keeping the current amount of the selected point (the factory default setting is Inhibit); Click Active for changing its current amount with a dropdown of Output popped up.

2.3) Output setting

Touch the left or right navigation mark of Output to decrease or increase, respectively, the output amount with a range from -100% and +100%.

2.4) Hovering setting

After all the said steps finished, the item Hovering should be set as On as well as all the points in the pitch curve should be activated if PIT Trim will be necessary to be used in flight. The points of 1-3, M, 4-6 will being paralleled to move the pitches up or down while adjusting PIT Trim.



3) Flight mode setting

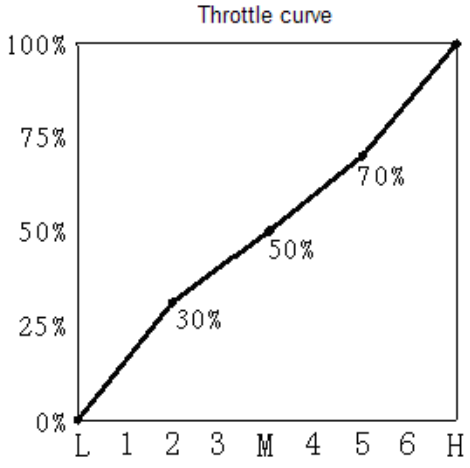
Flight Mode includes six sub-items: Normal Mode, Stunt 1, Stunt 2, Stunt 3, Stunt 4, and Throttle Hold (the flight mode should be previously set at Flight Mode Extra

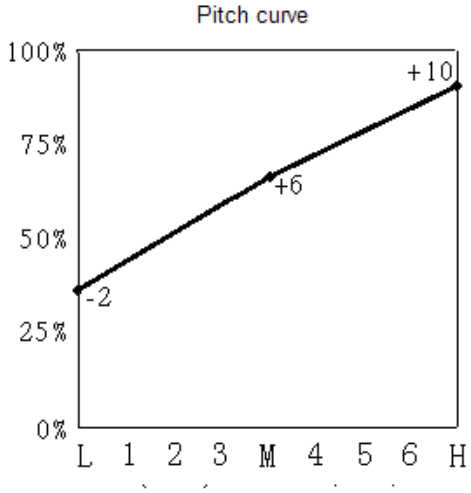
Switch in Device Select. Refer to “2.10 Device Select”). Their pitch curves can be separately set in their own flight modes. The setting method is same as above.

Click the icon to exit after finished.

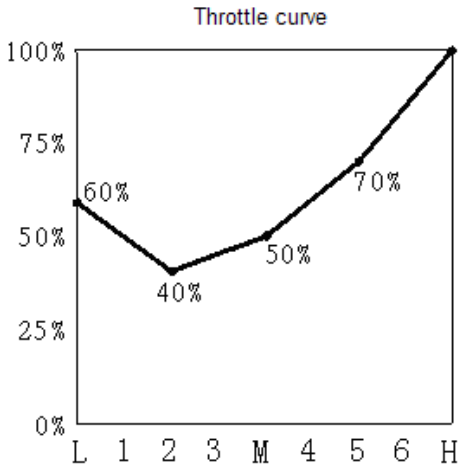
Below are shown several basic examples of Throttle curves and Pitch Curves for reference.

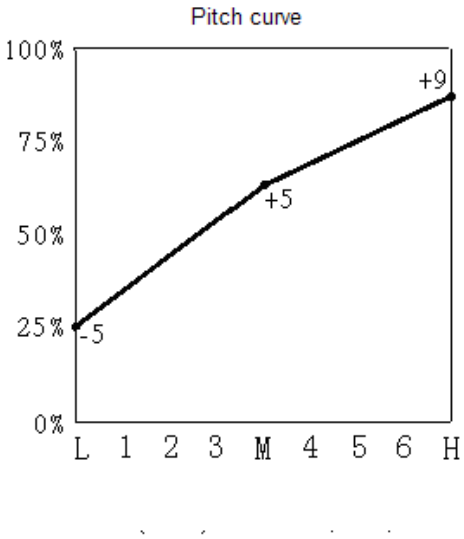
1) Normal flight



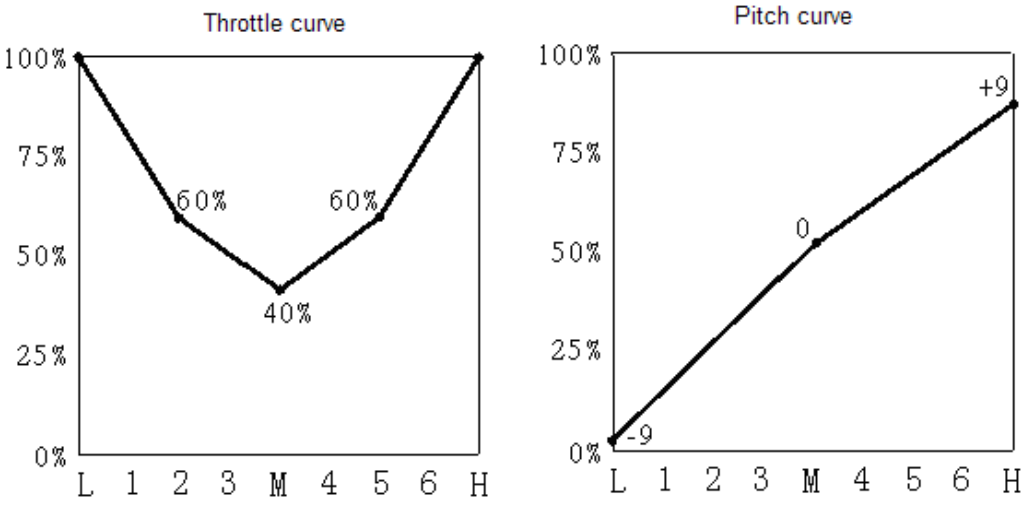


2) Flight mode 1

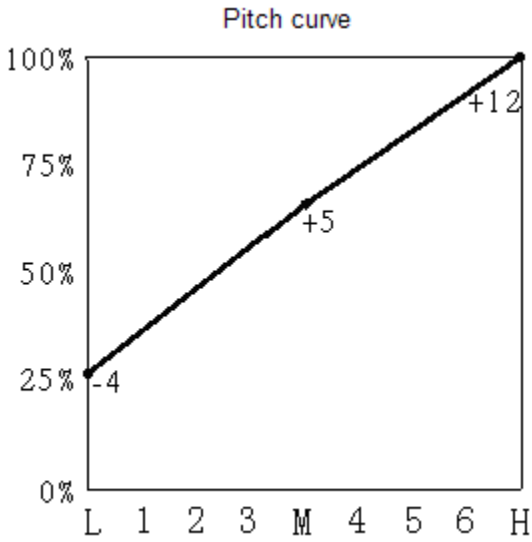




3) Flight mode 2



4) Autorotation landing



3.14 Program mix

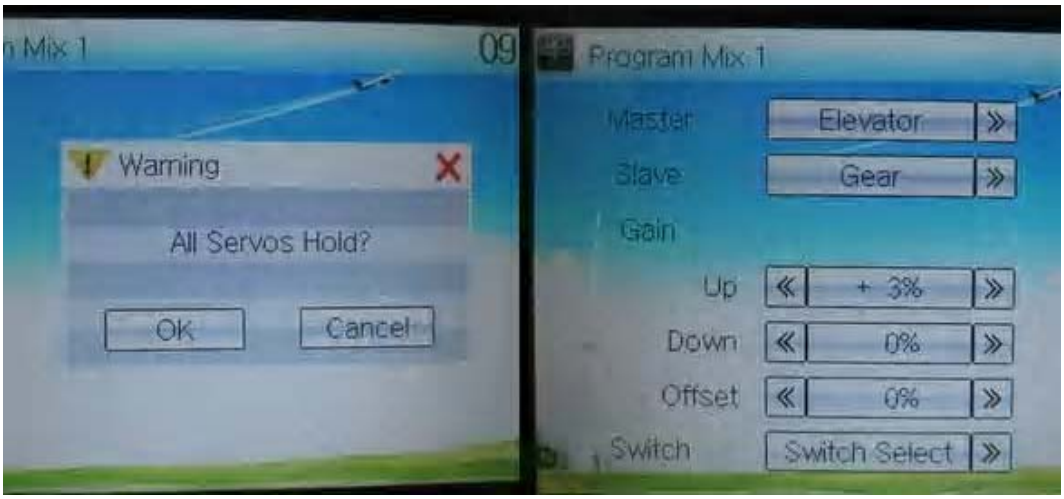
There are total eight sets of Program Mix. It is possible to freely set the channels and amounts which you want to select and amend, respectively.

Setting method:

Touch the icon to enter Function Menu, and then click to enter the interface of Program Mix. Eight Program Mix names and their current statuses are shown (the factory default setting is Inhibit). Take Program Mix 1 as an example to show how to use.

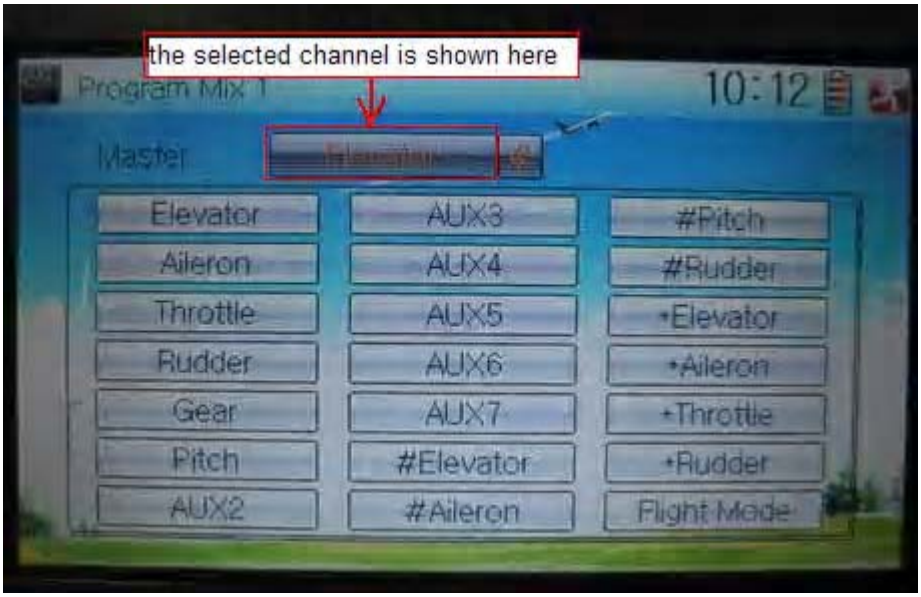
A) Setting method for Normal in Program Mix 1

Touch the item Normal in Program Mix 1 and expands an enquiry “All Servos Hold?” Click OK for all the servos will be locked at the current statuses; click Cancel for unlocked. Enter the next interface after clicking.



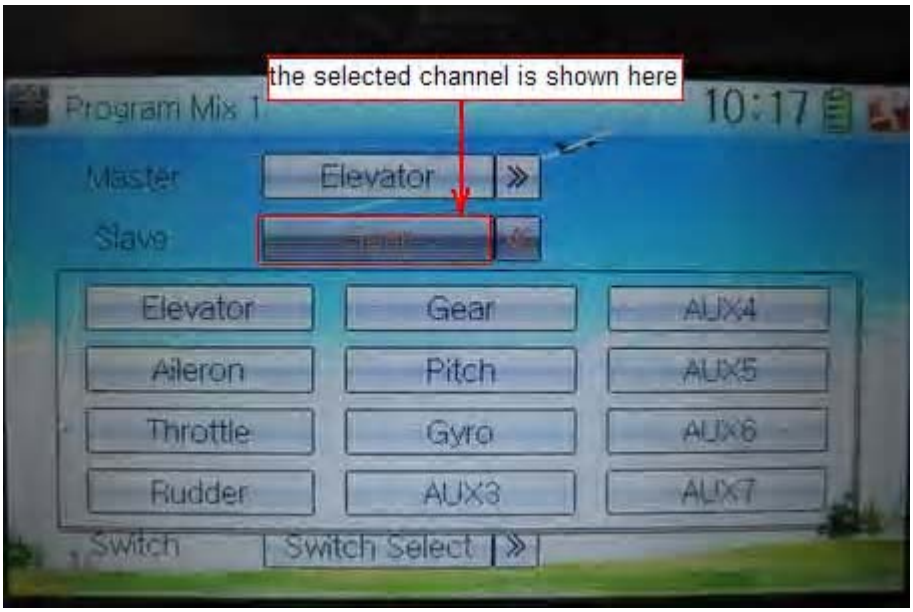
1) Mater channel setting

Touch the navigation mark of Master and expands a selectable dropdown menu. After clicking the desired channel the channel name will be shown in Master.



2) Slave channel setting

Touch the navigation mark of Slave and expands a selectable dropdown menu. Click the desired channel which will be shown in Slave.



3) Gain setting

Take an example of Elevator as Master channel.

3.1) Mix amount setting when elevator stick moved upward

Touch left or right navigation mark of Up to decrease or increase, separately, the mix amount. It is possible to reverse mix direction through changing the plus or minus sign before amount. The adjustable range is ±125%.

3.2) Mix amount setting when elevator stick moved downward

Touch left or right navigation mark of Down to decrease or increase, separately, the mix amount. It is possible to reverse mix direction through changing the plus or minus sign before amount. The adjustable range is ±125%.

4) Offset setting

This function can make Slave begin to mix through switch from a certain point as the starting point.

Touch the left or right navigation mark of Offset to decrease or increase, respectively, the mix amount. It is possible to reverse the offset direction through changing the plus or minus sign before amount. The adjustable range is ±125%.

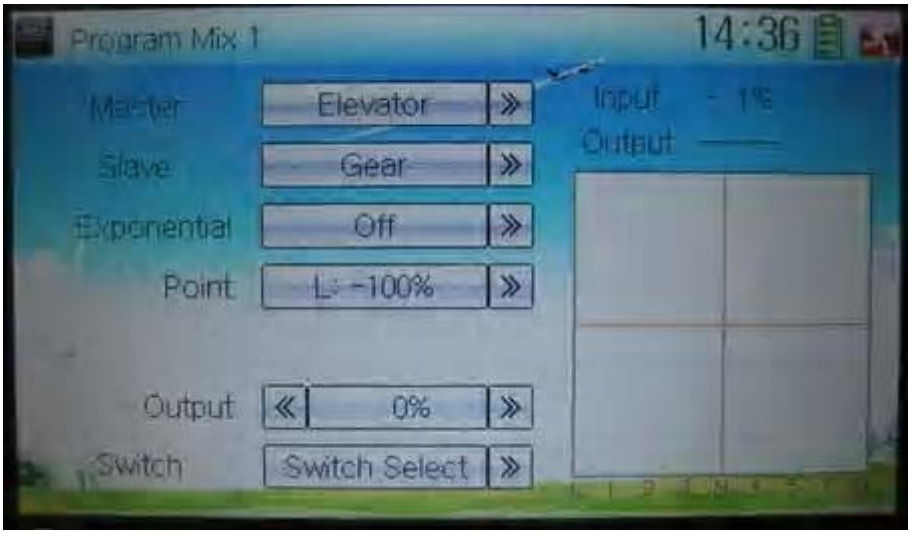
5) Switch selection

Touch the right navigation mark of Switch and pop up a dropdown menu which contains the adjustable items. Click the desired switch. Then touch the right navigation mark to return the previous interface.

Click the icon to return to the interface of Program Mix for other setting, or click the icon once again to exit.

B) Setting method for Curve in Program Mix2

Touch the item Curve in Program Mix 1 and expands an enquiry “All Servos Hold?” Click OK for all the servos will be locked at the current statuses; click Cancel for unlocked. Enter the next interface after clicking.



1) Master channel setting

Touch the navigation mark of Master and expand a selectable dropdown menu. Select the desired channel and its name will be shown in Master. Click the navigation mark of Master to return to the interface of Program Mix 1.

2) Slave channel setting

Touch the navigation mark of Slave and expand a selectable dropdown menu. Select the desired channel and its name will be shown in Slave. Click the navigation mark of Slave again to return to the interface of Program Mix 1.

3) Exponential

Touch the navigation mark of Exponential and expand a dropdown menu with two options of Off and On. The pitch curve will be smoothly changed if choosing On. Otherwise choosing Off.

4) Point

Touch the navigation mark of Point and expand a dropdown menu with nine points. Click the point you want to set, and then touch the navigation mark to return.

5) Status

Touch the navigation mark of Status and expand a dropdown with two options of Inhibit and Active. Touch Inhibit for unchanging the current amount (the default setting is Inhibit); click Active for changing the amount.

6) Output

Touch the left or right navigation mark of Output to decrease or increase, respectively, the output amount. It is possible to reverse the mix direction by changing the plus or minus sign before the amount. The adjustable range is ±125%.

7) Switch

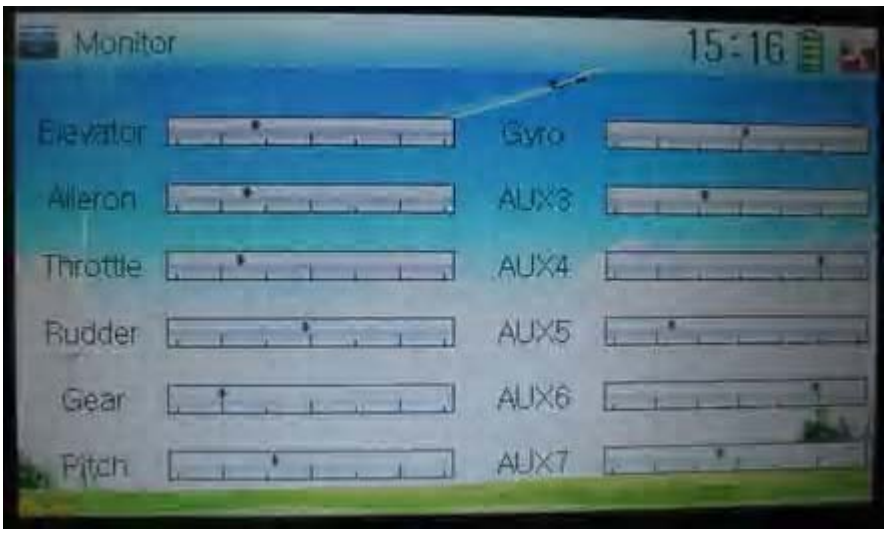
Touch the navigation mark of Switch and expand a usable dropdown menu. Select the desired switch, and then click the navigation mark to return.

Click the icon to return to the interface of Program Mix for other setting, or click the icon once again to exit.

3.15 Monitor

This function can display the current statuses and positions of all the channels' outputs, and check the current working status of each channel.

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Monitor for checking the current working status of each channel.



Click to the icon exit after finished.

3.16 Fail safe

There are two possibilities for use if the transmission signal is under abnormal

condition. The first one is to lock the last action data received; the second one is to execute the pre-set data which is pre-set. The default setting is Servo Hold.

Setting method:

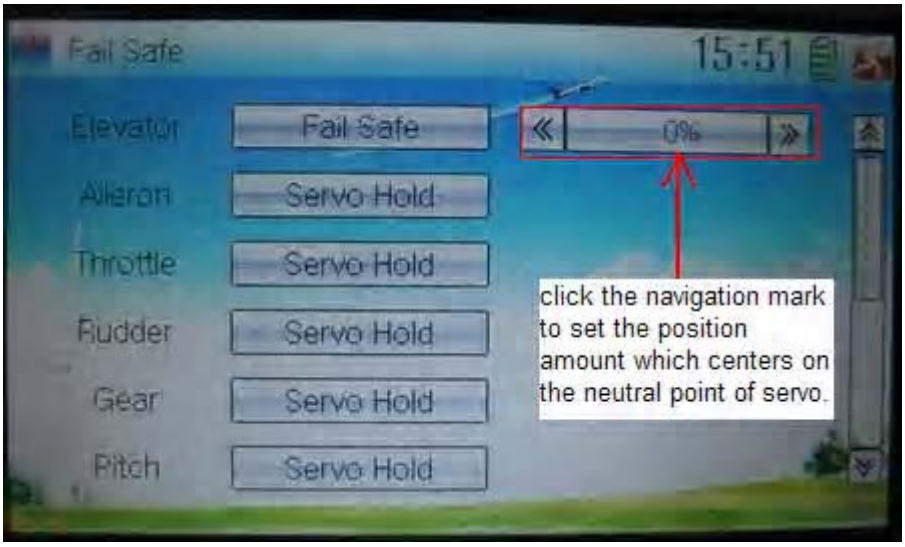
Touch the icon to enter Function Menu, and then click

to enter the interface of Fail Safe.

Take the item Elevator as an example to explain.

Elevator setting:

Touch the item Elevator and expand a sub-item in its right. Click the left or right navigation mark to decrease or increase, respectively, the position amount which centers on the neutral point of servo.



The setting methods for other channels are same as above.

Click the icon to exit after finished.

Note: checking whether all the actions when fail safe happened are correct is a must after the setting is finished. It is dangerous to use full throttle, especially after fail safe taken place.

3.17 Trainer

The training function can be practiced via two DEVO-12 equipments.

Setting method:

A) Data copy

Using the wireless copy function of the two DEVO-12 transmitters, the model data saved in the trainer's transmitter can be transmitted to the trainee's to ensure the model parameters are exactly same. Regarding the copying method, refer to "2.4 Model Wireless Copy"

B) Linkage

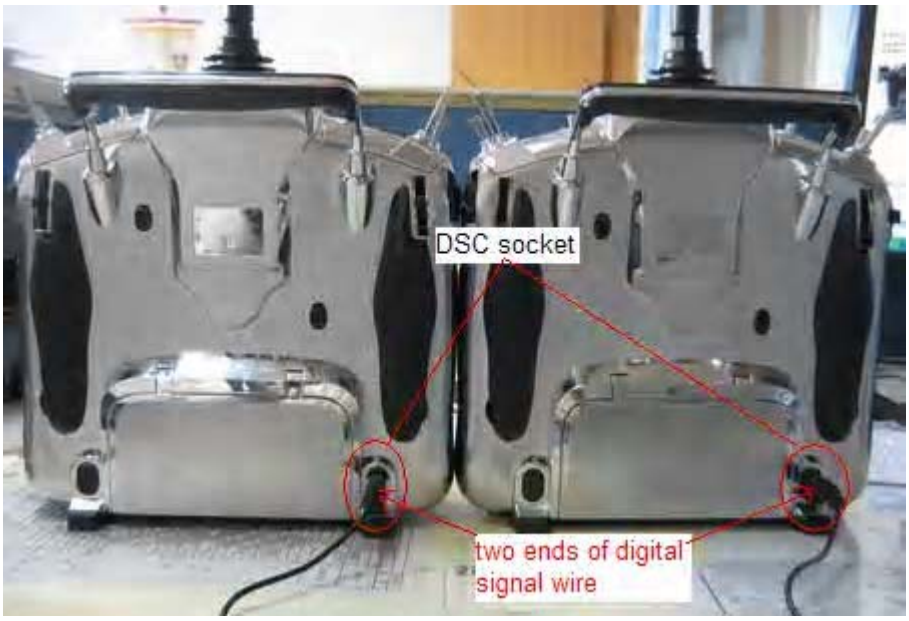
Insert one end of the signal wire into DSC socket at the rear face of the trainee's DEVO-12, and then turn on the power. A linkage icon will be shown on the boot screen. Find out the trainee's model data.

English	Your language
Linkage icon at trainee's icon	

Turn on the power of the trainer's DEVO-12. Find out the trainee's model data, and let the trainer's DEVO-12 fly the aircraft model normally. Then turn off the power.

Insert the other end of the digital signal wire into the trainer's DEVO-12, and then turn on its power. A linkage icon will be shown as below:

English	Your language
Linkage icon at trainer's DEVO-12	



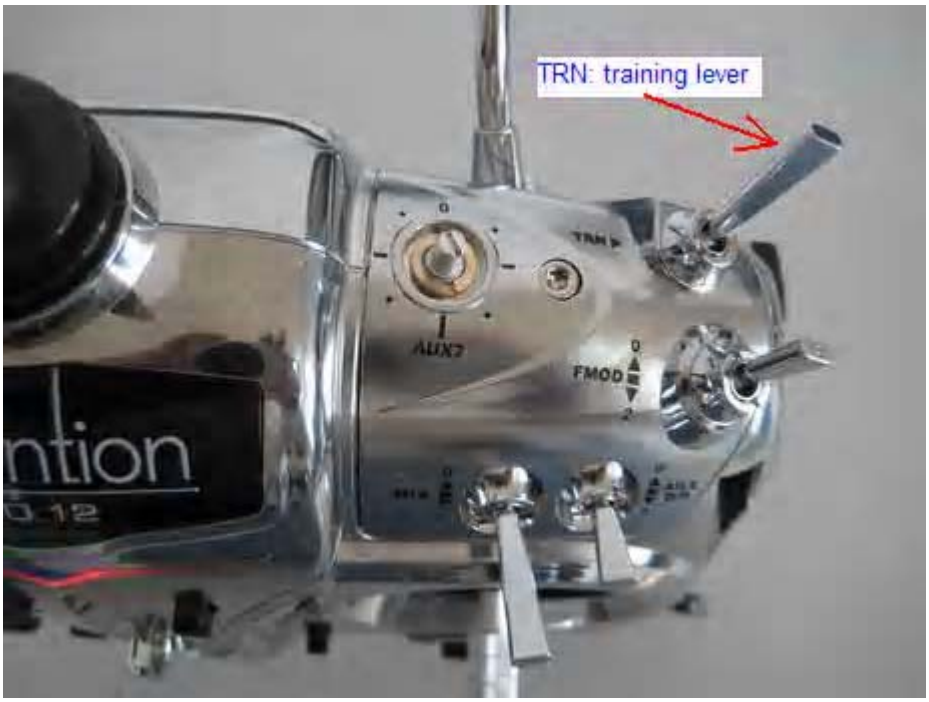
English	Your language
DSC socket	
Two ends of digital signal wire	

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.

English	Your language
Trainee is off and trainer is working	
Trainee is working and trainer is off	

C) Usage method

The training switch should be worked with the TRN training lever at the right top of DEVO-12.



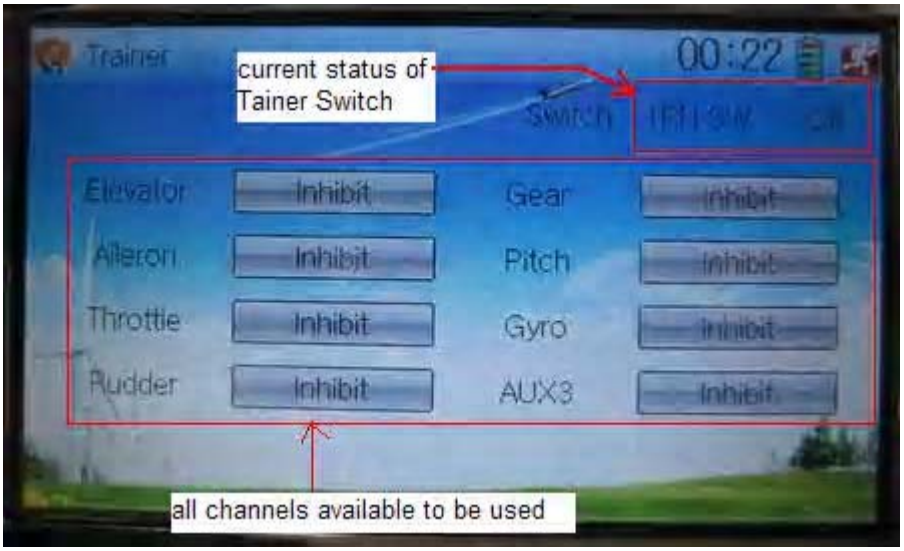
English	**Your language**
TRN: training lever	

If the trainer's finger pulls the training lever TRN, a "√" is shown in the linkage icon; if the trainer releases his finger from the trainer lever, an "X" will be shown there.

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-12. Below is the setting method:

Touch the shortcut icon to enter Function Menu, and then touch in Function Menu access to Trainer screen. The available channels are shown below, and the current status of trainer switch TRN is also shown.



English	Your language
Current status of Trainer Switch (TRN SW)	
All channels available to be used	

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

Touch to save and exit after finished.

3.18 Timer

There are two timers which can be set as stopwatch and countdown, respectively. Each timer can be operated by switch or by shortcut.

Setting method:

Touch the icon to enter Function Menu, and then click the icon

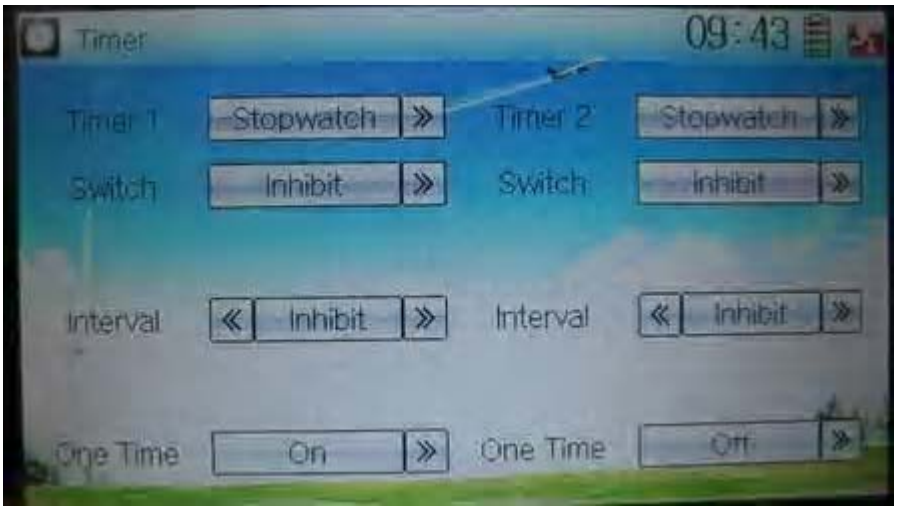
to enter the interface of Timer.

A) Setting for Timer 1

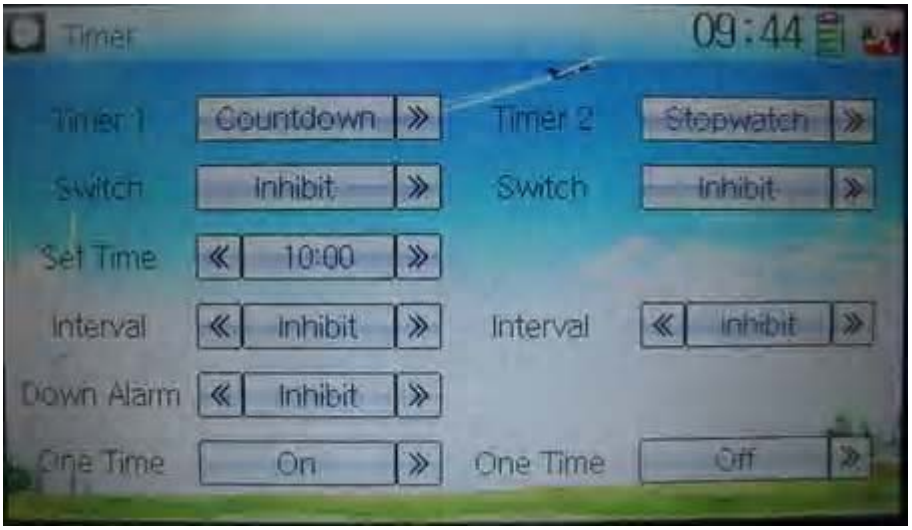
1) Timer 1 setting

Touch the navigation mark of Timer 1 and expand a dropdown of Stopwatch and Countdown. Select the desired timing method. The timing range of stopwatch is from 0 to 59:59 (59 minutes 59 seconds).

Stopwatch view:



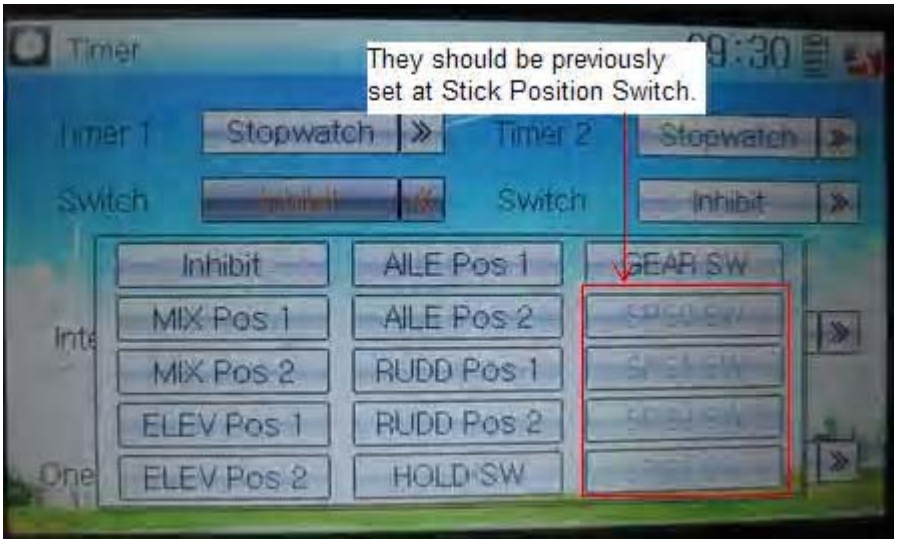
Countdown view:



Take countdown manner as an example to explain.

2) Switch selection

Touch the navigation mark of Switch and get a selectable dropdown



We can select the desired item but these items of SPS0 SW, SPS1 SW, SPS2, and SPS3 which should be previously set at Stick Position Switch at Model Menu (refer to “2.8 Stick Position Switch”).

3) Set time

The settable countdown time range is from 00:05 to 59:55.

4) Interval

This item offers the possibility to set the warning interval. It will warn once every interval time. The adjustable range is from 00.05 to 05:00. The default setting is Inhibit.

5) Down alarm

It is possible to set the down alarm in countdown. The setting range is from 00:01 to 03:00. The default setting is Inhibit.

6) One time

If this function is turned on, counting down cannot be stopped once the countdown works. The default setting is Off.

B) Setting for Timer 2 is same as that for timer 1.

Touch the icon to exit after finished.

Part three: Airplane

1.0 System menu

The boot screen of airplane is shown as below:

N/O	English	Your language	N/O	English	Your language
1	Elevator trim		11	Aileron trim	
2	Flap trim		12	System menu icon	
3	Flight mode		13	Function menu icon	
4	Timer		14	Model name	
5	Throttle percentage value		15	Battery volume display	
6	Throttle curve icon		16	Time display	
7	Rudder trim		17	Transmission power display	

8	D/R & exponential icon		18		
9	Model menu icon		19	Throttle trim	
10	Gyro sensor icon		20		

1.1 Language setting

Touch the shortcut icon to enter System Menu and then touch to enter Language. Touch the language that you want to select. A “√” will be shown on the screen after selected.

Then touch to save and exit.

1.2 Skin selection

DEVO-12 offers three skins for your selection.

Touch to enter System Menu and touch to enter Skin.

Touch the skin you desire and then touch to exit.

1.3 Display

Touch the shortcut icon to enter System Menu and then touch the icon

to enter “Display”.

Five items are available to be set. Below are the setting methods for them:

6) LCD brightness: it is possible to increase or decrease the LCD brightness by touching the navigation marks. The power consumption will be increased if the LCD is too bright and will the battery cruise duration will also be shortened.

7) LCD contrast: the contrast can be adjustable by touching the navigation marks. The power consumption will be increased if the contrast is too high and the battery cruise duration will be shortened.

8) Backlight lightness: the backlight lightness can be adjustable by touching the navigation marks. The power consumption will be increased if the backlight

lightness is too bright and the battery cruise duration will be shortened.

9) Backlight time out: it is possible to set the duration which LCD stays at highlight in the form of “Always on” and “5 to 60” seconds with an interval of 5 seconds.

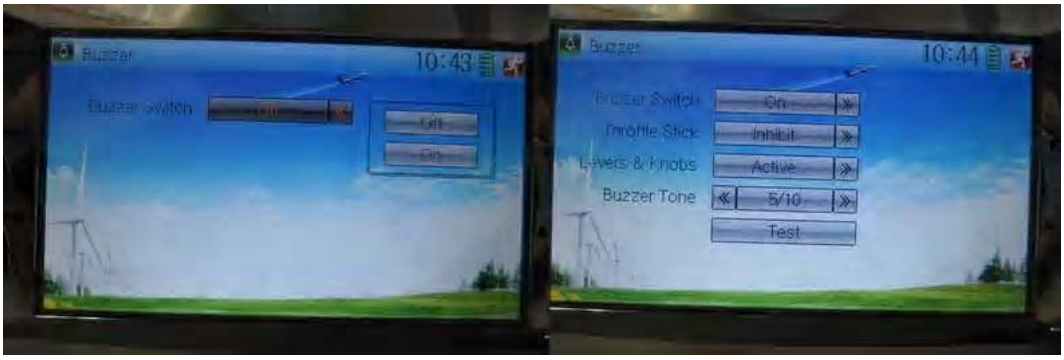
10) Power save time: it can adjust the duration which turns off the backlight light in order to improve the battery cruise time. The setting status contents Always on and 30 grades with an interval of 1 minute.

Touch to exit. After finished.

1.4 Buzzer warning

Touch the icon to enter System Menu and then touch

to enter Buzzer interface



5) Buzzer switch: touch the navigation mark at Buzzer Switch and pop up an alternative item: Off and On. If touching On, a drop-down menu is shown as the right upper.

6) Throttle stick: under Buzzer Switch is at the status of On, if Throttle Stick is set as “Active”, it will make a relative response of musical scale when moving the throttle stick. You can judge the position of the throttle stick according to the different musical scales. It is can be set as “Inhibit”.

7) Levers and knobs: under the condition that this item is set as “Active”, DEVO-12 will sound when rotating or moving such levers or knobs as AUX2, AUX3, AUX4, AUX5, AUX6, and AUX7 to their neutral positions. It is can be set as “Inhibit”.

8) Buzzer tone: the tone is composed of 10 grades. You can choose the favorite tone according to your interests. Touch Test to make a listening test.

Touch to exit after finished.

1.5 Date & Time

Touch the icon to enter System Menu and then touch to enter the item of “Date & Time”.

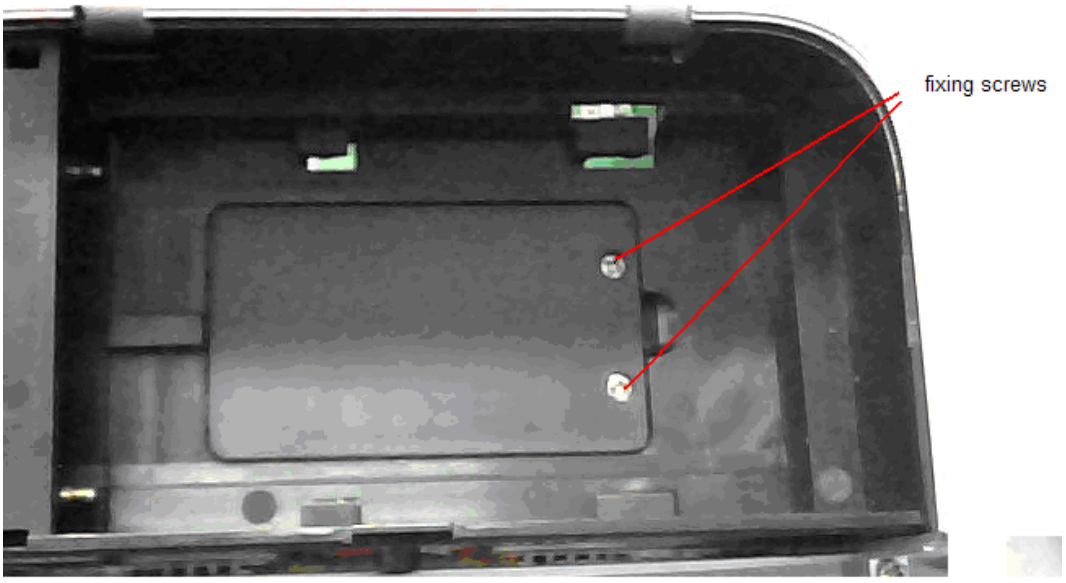
The clock setting is grouped into Year, Month, Day, and Time. Touch the navigation marks, respectively, to make modifications.

Touch to save and exit.

Note: if incorrect turn on time or production time appears, one possibility is that the power supply for the clock is not enough. Replacing a new button cell is a must.

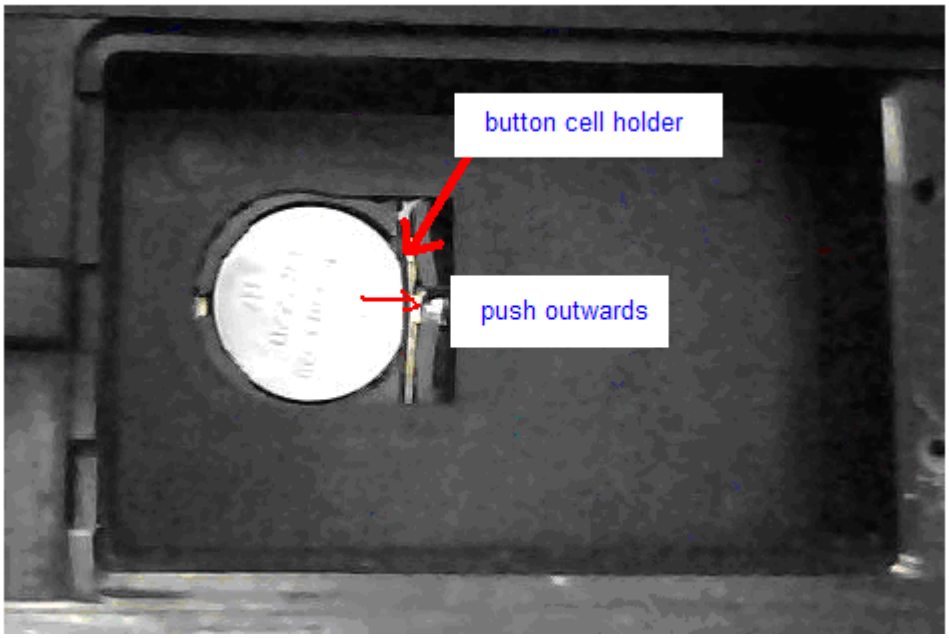
The method for changing button cell:

Turn off the power of your DEVO-12 and take off its battery pack. Use a cross screwdriver to remove the two fixing screws on the fixing board.



English	Your language
Fixing screws	

Push outwards the button cell holder, and the button cell will automatically pop up. Replace the old cell with a new one.



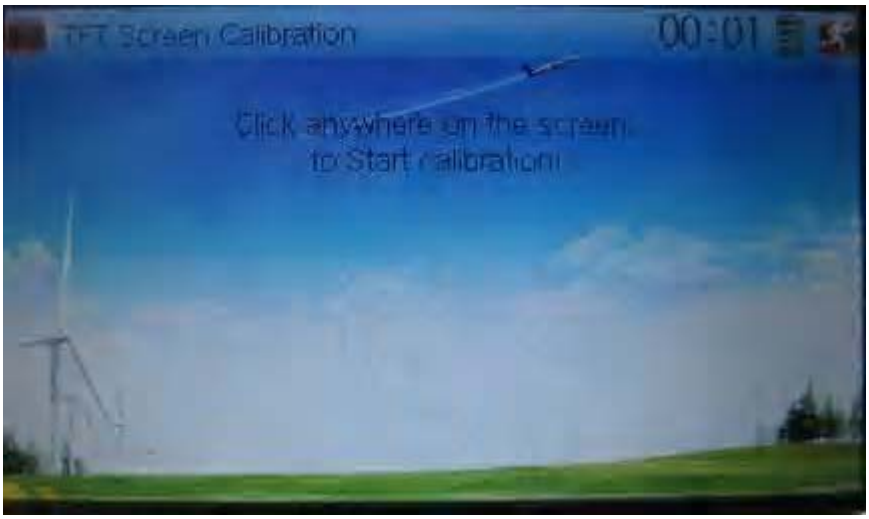
Cell size: CR 1220 3V

English	Your language
Button cell holder	
Push outwards	

1.6 TFT screen calibration

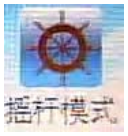
Touch the icon to enter System Menu and then touch

to enter TFT Screen Calibration.



Click anywhere on the screen to start calibration with the touch pen, and then follow the indication to calibrate. It will automatically return to System Menu after the calibration is finished.

1.7 Stick mode

Touch the icon to enter System Menu, and then touch the icon  to enter Stick Mode.

There are four stick modes from MODE 1 to MODE 4. Select the stick mode you desire and then touch the icon to exit.

1.8 Stick and lever

Touch the icon to enter System Menu and then touch the icon to enter Stick and Lever. There are two items in the interface: Stick Direction and Stick

& Lever Calibration.

3) Stick direction: there are four options: Elevator, Aileron, Throttle, and Rudder. Click the item, which you want to reverse, to change the output direction of the stick. The default setting is Normal.

4) Stick & lever calibration: if variance happened in sticks or levers, it would be calibrated via this option.

Method for calibration:

Click the display item of Start to enter the status of calibration, and Start will be turned into Stop.

2.1) Stick calibration: Clockwise or counter clockwise mechanically move the right stick and left stick from their minimum levels to their maximum levels several times, and then return the sticks to the neutral positions, respectively.

2.2) Lever calibration: mechanically move the levers of AUX2, AUX3, AUX4, and AUX5, respectively, from the minimum level to the maximum level several times, and then return to the neutral positions, respectively.

2.3) Click the display item of Stop. If the calibration is finished, “Calibration success!” will be shown on the lower of the screen. If the calibration is failed, “Calibration error! Please try again!” will be shown instead. It need to be calibrated again.

English	Your language
Normal	
Reverse	
Stick direction	
Stick & lever calibration	
Start	
Stop	
Calibration success	
Calibration error! Please try again!	

2.4) Re-calibration: directly repeat the said steps 2.1 and 2.2 in the calibration failure interface.

Touch the icon to exit.

1.9 Power amplifier

The transmission output power of DEVO-12 is adjustable. It is divided into six grades from small to big. The lower the transmission output power transmits, the nearer the radio range is, and the longer the stand-by time will be. The higher the transmission output power, the farer the radio range, and the shorter the stand-by time. Choose the appropriate transmission output power according to the actual situation.

Touch the icon to enter System Menu and then click to enter the interface of Power Amplifier.

Choose the appropriate output power level and then touch to exit.

1.10 About

Touch the icon to enter System Menu and then touch to get access to the interface of About. You can check the versions of hardware and software.

Click the icon to exit.

2.0 Model menu

Model Menu manages all the model data saved in DEVO-12. It includes Model Select, Model Name, Model Copy, Model Transmit, Model Receive, Model Reset, Type Select, Trim System, Stick Position, Warning, Device Select, Device Output, Wing Type and Fixed ID.

2.1 Model select

Touch the icon to enter Model Menu and then click the icon to enter Model Select.

Touch the model you desire. The selected model is changed in orange color. Then click the icon to exit.

2.2 Model name

In the menu of Model Name, you can make a desired name for your model for long term storage. Its data can be directly withdrawn in the next flight.

Repeat the step 2.1 Model Select to choose the model you want to name or save. And then touch the icon to exit.

Click the icon to enter System Menu and then click the icon to get the interface of Model Name. The following is the interface:

Click the right blank frame of Name and a gray stripe will be shown in the frame. Touch the return key to clear up the old name.

English	Your language
Gray stripe	

Touch the soft keyboard to input a new name. it is possible to switch between lowercase and uppercase by clicking the key

.

Then touch to exit.

2.3 Model copy

Touch the icon to enter Model Menu and click to enter Model Copy.

Choose the model you want to be copied as source model. The serial No. and model name of Source Model will be shown in the left side of the interface.

Then touch the model in the right list where you want to locate the source model. The serial No. and name of the model you chose are shown under Dest Model in the lower left of interface as well as an enquire “Are you sure?” is popped up.

Click OK to copy. Otherwise click Cancel. Then the interface will automatically return to Model Menu. Click to save and exit.

2.4 Model wireless copy

The model data between two DEVO-12 equipments can be wirelessly copied via Model Transmit and Model Receive in Model Menu

3) Model transmission

Touch the icon to enter Model Menu and then continue to click the icon to enter Model Transmit.

Choose the source model which will be transmitted. The serial No. and name of the source model will be shown under Select Model in left side of the interface as well as enquiry information “Are you sure?” in the right side.

Click OK for transmission or Cancel for rejection. Enquiry information "Transmitting ……" appears after clicking OK. Touch the icon to exit.

4) Model receiving

Touch the shortcut icon to enter Model Menu and then touch the icon to enter the interface of Model Receive. Enquiry information "Are you sure?" is shown in the center of the interface.

Click Ok for receiving or Cancel for rejection. "Connecting ……" and "Receiving ……" will be shown in series in the interface. The information of "Received" with the model name will be shown in left side after receiving is finished..

Choose the save position in the right name list by touching. Enquiry information “Are you sure?” is shown after clicking the save position. Click OK for save and the current interface will automatically return to Mode Menu. Click Cancel for rejection.

Touch the icon to exit.

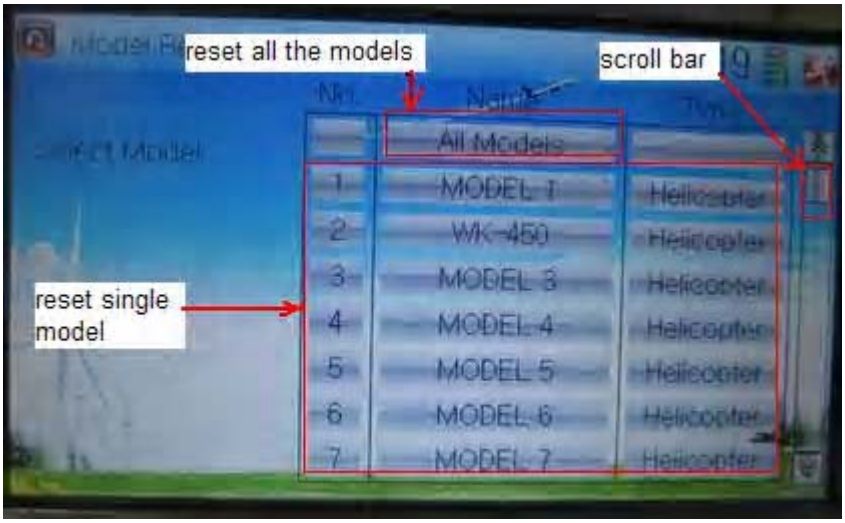
2.5 Model reset

All the model data can be restored to factory settings via Model Reset.

Touch the icon to enter Model Menu and then click

to enter Model Reset.

It is possible to store 60 models data in the model list of DEVO-12 equipment. There are two methods to reset the model data: batch reset and single reset.

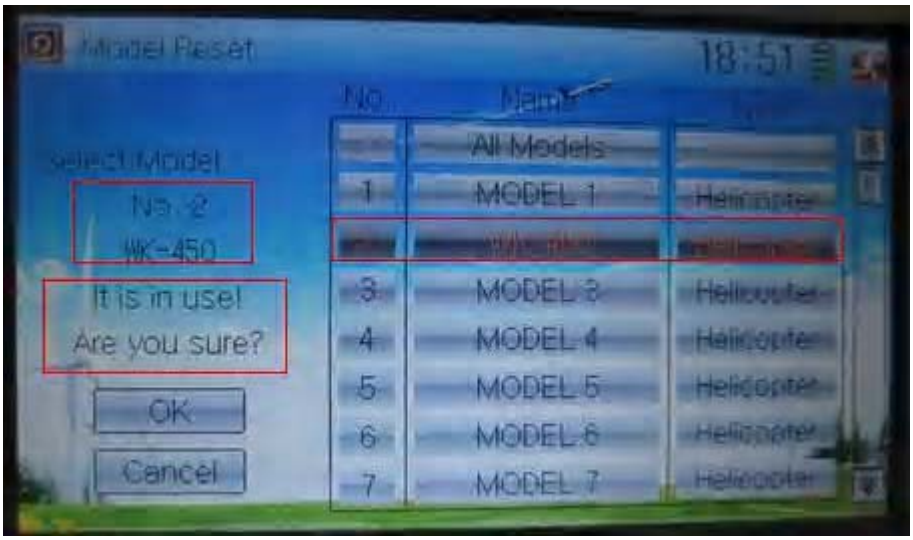


Method for batch reset:

Touch ‘All Models’ in Model Reset interface. Then ‘’All Models” and enquiry “Are you sure?” appear in the left side. Click OK for reset, or Cancel for rejection.

Method for single reset:

Touch the upper or lower navigation mark to move the scroll bar, and then choose the model you wants to restore in the model name list. The selected model’s name and serial No., and enquiry “It is in use! Are you sure?” appear in the left side. Click OK for reset, or Cancel for rejection.



Click the icon to exit.

2.6 Type select

This device offers three model types menu. They are helicopter, airplane, and glider, respectively.

Touch the icon to enter Model Menu and then click to enter Type

Select.

Choose the model type and then touch the icon to exit.

2.7 Trim system

Trim System is able to finely tune the following six items, respectively: elevator, aileron, rudder, throttle, left trim, and right trim. The trim range is covered from 1 to 20 grades (factory default is set at 4). It is convenient to subtly modify the pitch by adjusting the trim range.

Touch the icon to enter Model Menu and then click to enter Trim System.

Touch the corresponding navigation mark to change the trim value. The bigger the trim value is, the bigger the trim range is.

For elevator, aileron, and rudder, there are two options: Normal and Limited. “Normal”

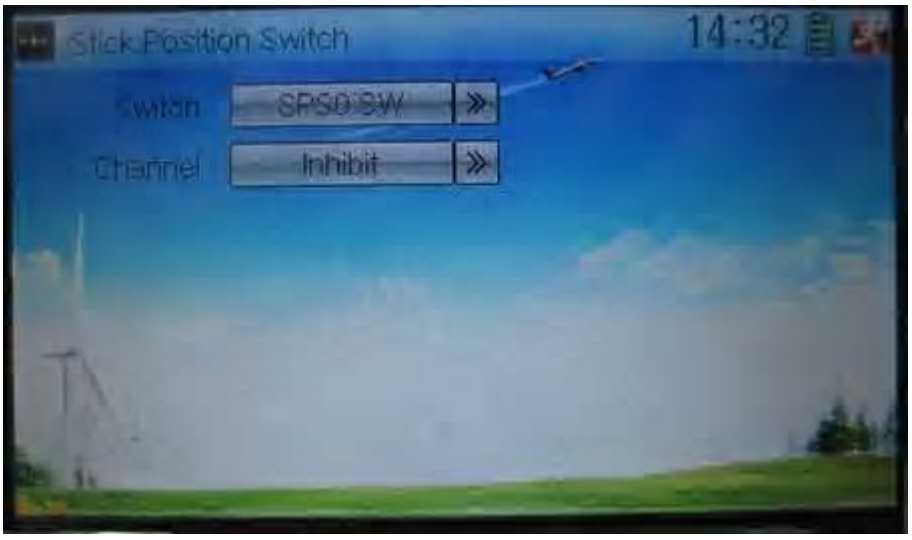
means the trim is always working although the corresponding stick stays anywhere. “Limited” means the trim is out of working when the corresponding stick is at maximum position.

2.8 Stick position

The stick can be used as a switch. The turn-on or turn-off position at which the stick stays can also be set up.

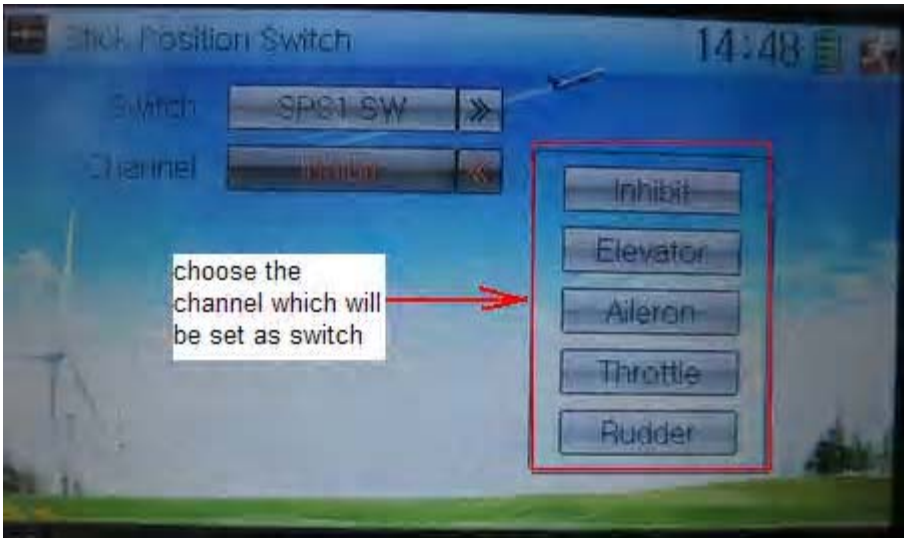
Method for setting:

Touch the icon to enter Model Menu and then click to enter Stick Position Switch.



Click the navigation mark of Switch. It pops up a drop-down menu: SPS0, SPS1, SPS2, and SPS3. Choose the switch you want to define.

Then touch the navigation mark of Channel. It expands into five items: Inhibit Elevator, Aileron, Throttle, and Rudder. The factory default setting is Inhibit. Choose the stick you want to set as “switch”.



English	Your language
Stick position switch	
Switch	
Channel	
Inhibit	
Elevator	
Aileron	
Throttle	
Rudder	
Choose the channel which will be set as switch.	

At the same time, “Position” and the status of turn-on or turn-off appear under the item Channel. The current status of turn-on or turn-off will be shown on the right top corner.

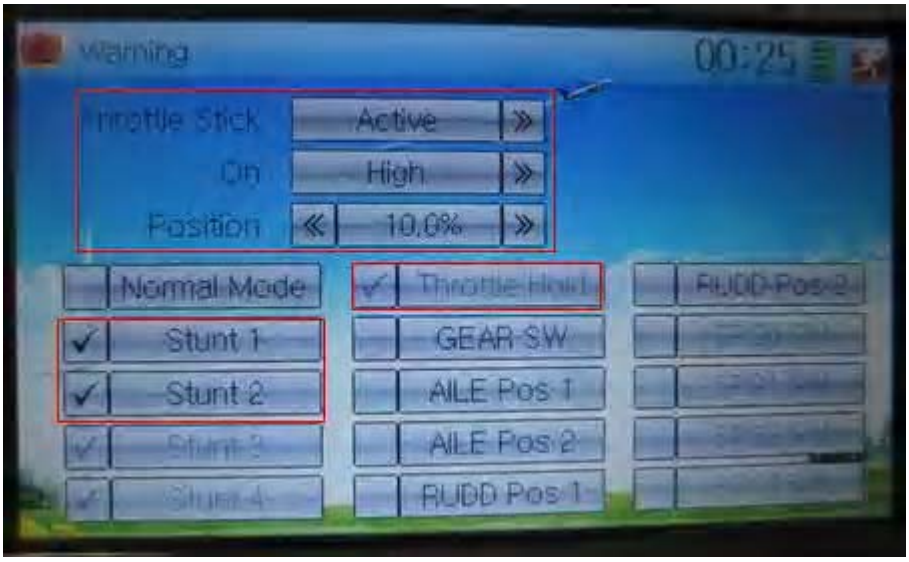
English	Your language
Switch status	
“Position” and switch status appear under “Channel”	

Click the icon to exit after the setting finished.

2.9 Warning

This function can set the warning for unsafety of which stick, switch status, or flight mode stay at the position while turning on the device, or is used as start-up warning in special purpose.

The factory default is set Throttle Stick as Active, High direction at 10.0% Position, set flight mode as Stunt, and set Throttle Hold at on position.



Touch the icon to enter Model Menu and then click to enter the interface of Warning.

Setting method:

3) setting Throttle stick as warning

Click the navigation mark of Throttle Stick in the interface Warning. It expands into Inhibit and Active. If clicking Inhibit, the dropdown menu is retracted. If clicking Active, it will expand into On and Position. It can set the throttle stick is at high position or low position when startup is warning. Set the warning level by changing the percentage in Position, whose setting value is ranged from 0.0 to 100.0%.

Take the right-hand throttle as an example. Position is 0.0% when the throttle stick is at the lowest position; Position is 100.0% when the throttle stick is at the highest position. The factory default setting is Throttle Stick is Active, Position in High direction at 10.0%.

4) setting other items

Other flight modes and switches warning will be shown in the lower-middle part of the interface after the setting for throttle stick is finished. Click the corresponding items you want to use. The factory default setting includes Stunt 1, Stunt 2, Stunt 3, Stunt 4, and Throttle Hold.

Click to exit.

2.10 Device select

This setting can help you configure various functional switches, or adjust levers. It includes Flight Mode Main Switch, Flight Mode Extra Switch, Stunt Trim Select, Throttle Hold Switch, Hovering Pitch, and Hovering Throttle.

Setting method:

Touch the icon to enter Model Menu, and then click the icon to enter Device Select.

7) Flight Mode Main Switch

Touch the navigation mark of Flight Mode Main Switch to expand into a dropdown menu. Choose the mode switch you desire. The factory default setting is FMOD SW.

8) Flight Mode Extra Switch

Refer to “1) Flight Mode Main Switch”.

9) Stunt Trim Select

There are two modes: Common and Flight Mode. In Common mode all the trim values to which various sticks are relative put equally effects on all the flight modes.

In Flight Mode, the trim values to which each stick is relative put, respectively, effect on the corresponding stick. The factory default is Common.

10) Throttle Hold Switch

Refer to “1) Flight Mode Main Switch”.

11) Hovering Pitch

Refer to “1) Flight Mode Main Switch”.

12) Hovering Throttle

Refer to “1) Flight Mode Main Switch”.

2.11 Device Output

Device output is composed of eight items. It can set up output switches and select the usage of levers, respectively. It can also activate, inhibit or use other functions.

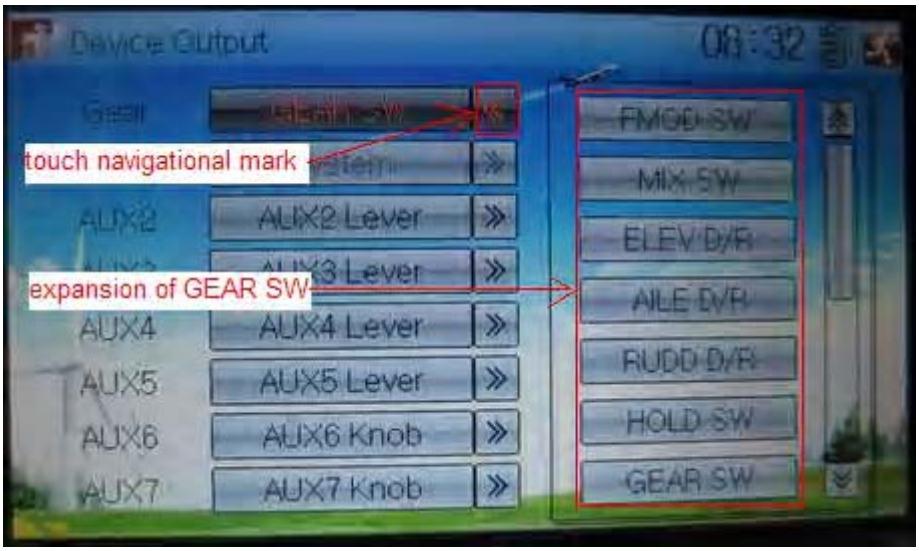
Setting method:

Touch the icon to enter Model Menu and then click to enter Device Output.

There are eight items to be adjustable. They are Gear, Pitch, AUX2, AUX3, AUX4, AUX5, AUX6, and AUX7. The setting methods for them are shown below:

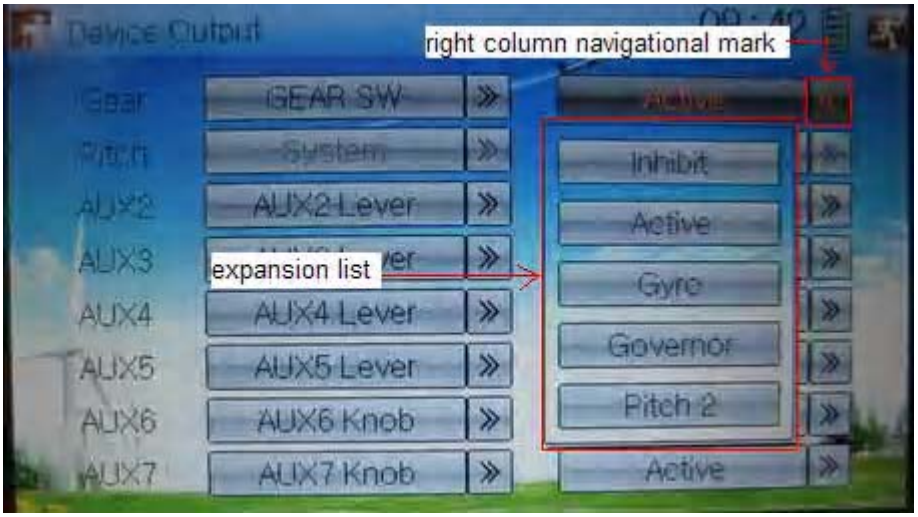
2) Gear

Touch the left column navigation mark of Gear and pop up an expansion including FMOD SW, MIX SW, ELEV D/R, AILE D/R, RUDD D/R, HOLD D/R, and GERA SW. Touch the desired item. The default setting is GEAR SW.



English	Your language
Touch navigation mark	
Expansion of GEAR SW	

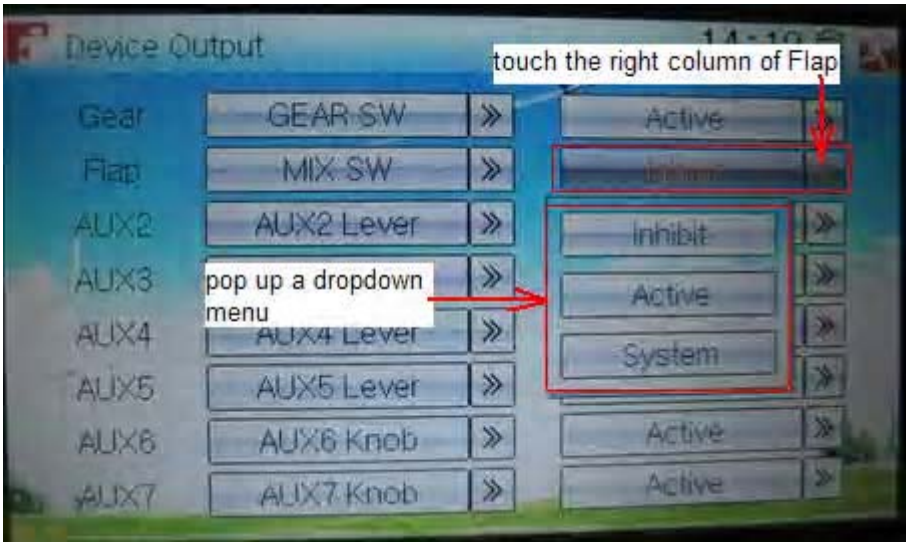
Touch the right column navigation mark of Gear. Pop up an expansion including Inhibit, Active, Gyro, Governor, and Pitch 2. Touch the desired item. The default setting is Active.



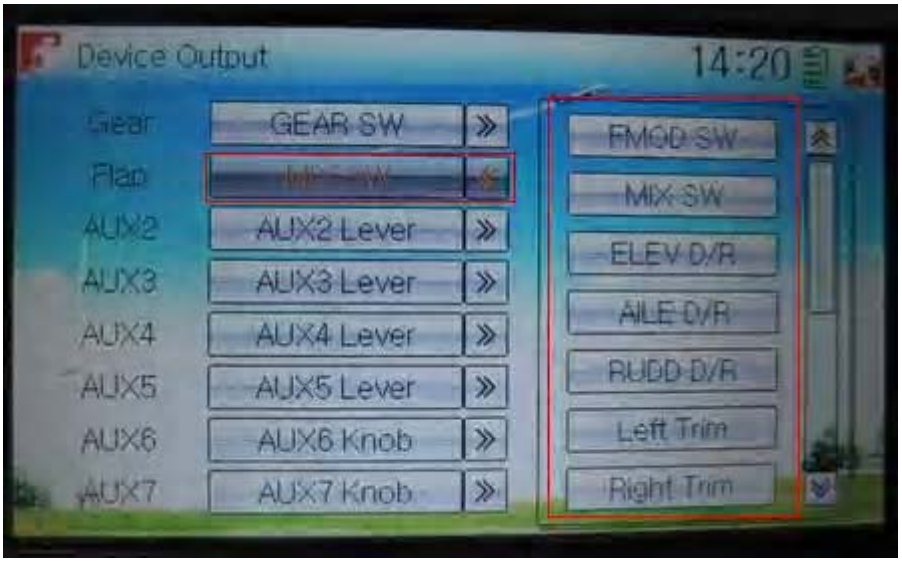
English	Your language
Right column navigation mark	
Expansion list	

7) Flap

There will show the switch option only after the right column of Flap is selected. Touch the right column of Flap and expand a dropdown menu including Inhibit, Active, and System.



2.1) If choose Inhibit or Active, the expansion menu will include these items: FMOD SW, MIX SW, ELEV D/R, AILE D/R, RUDD D/R, Left Trim, and Right Trim. The default setting is Inhibit. Select the desired item as the flap switch.



2.2) If choose System, it is impossible to set in Flap.

3) AUX 2

Touch the left column navigation mark of AUX 2. Pop up an expansion list including SPS0 SW, SPS1 SW, SPS2 SW, SPS3 SW, Left Trim, Right Trim, and AUX2 Lever. Touch the desired item. The default setting is AUX2 Lever.

Touch the right column navigation mark of AUX 2, and expands a list including Inhibit, Active, Gyro, Governor, and Pitch 2. Click the desired item. The default setting is Active.

Then continue to set other items.

4) AUX 3

Touch the left column navigation mark of AUX 3, and expands a list including AUX3 Lever, AUX4 Lever, AUX5 Lever, AUX6 Knob, AXU7 Knob. Touch the desired item. The factory default setting is AUX3 Lever.

Click the right column navigation mark of AUX3, and see a expansion list including Inhibit, Active, Gyro, Governor, and Pitch 2. Choose the desired item. The factory fault setting is Active. Then continue to set up other items.

5) AUX 4

Refer to “4) AUX 4”.

6) AUX 5

Refer to “4) AUX 4”.

7) AXU6

Refer to “4) AUX 4”.

Click the icon to exit.

2.12 Wing type

Wing Type is grouped into Flaperon, DLETA, 4-Aileron, and V Tail.

Wing type selection:

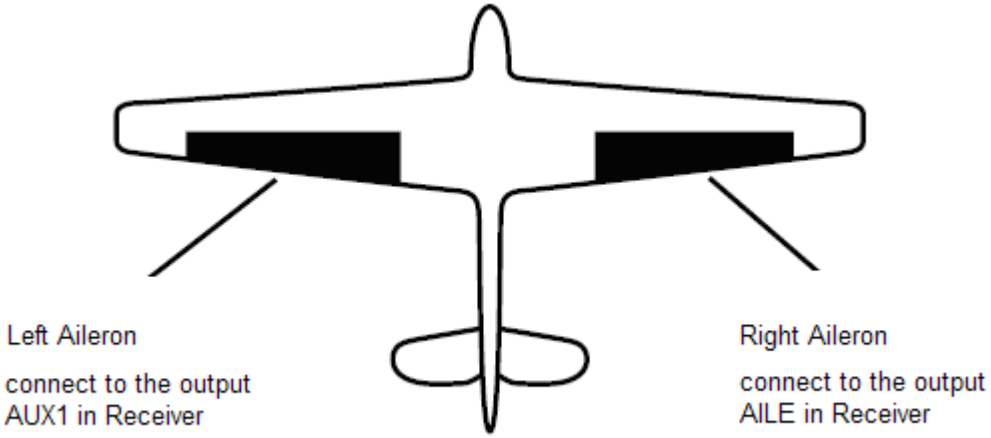
Touch the icon to enter Model Menu, and then touch to enter the interface of Wing Type.

1) Flaperon

Touch the navigation mark of Wing Type and expand a dropdown menu with Normal, Flaperon, DELTA, and 4-Aileron. Choose the desired wing type.

1.1) Flaperon

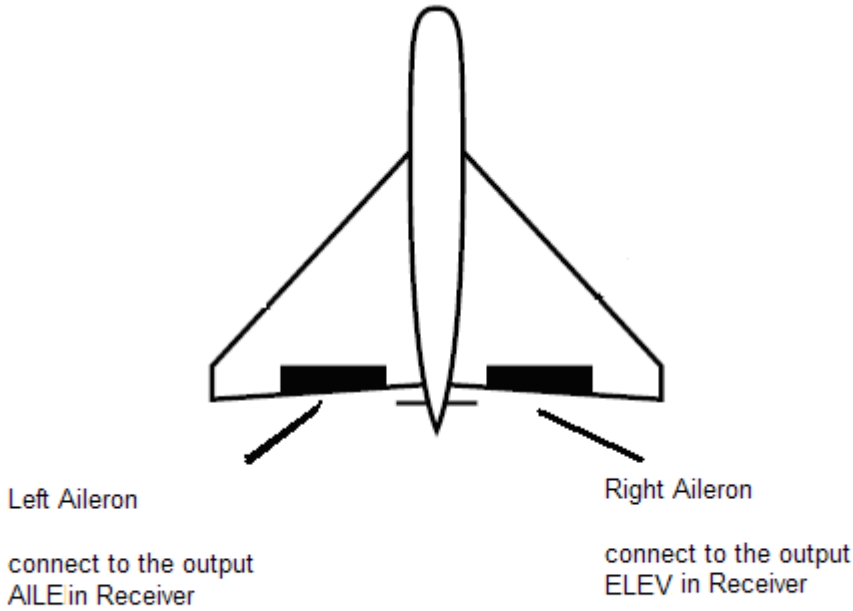
Below is the sketch map of Flaperon servos' assignment:



English	Your language
Left aileron	
Right aileron	
Connect to the output AUX1 in Receiver	
Connect to the output AILE in Receiver	

1.2) DELTA

Below is the sketch map of DELTA servo's assignment:



English	Your language

Left Aileron	
Right Aileron	
Connect to the output AILE in Receiver	
Connect to the output ELEV in Receiver	

1.3) 4 Aileron

If your model airplane is equipped two left aileron servos and two right aileron servos, we recommend you to use 4-Aileron function.

Touch the navigation mark of Wing Type, and expand a dropdown menu with Normal, Flaperon, DELTA, and 4-Aileron. Click 4-Aileron. Check the channel assignment by touching Monitor (Refer to “3.19 Monitor”).

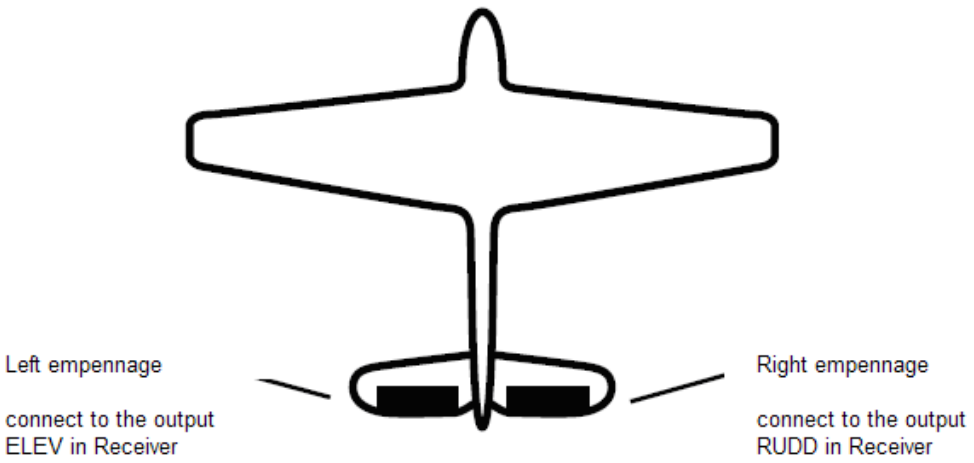
The left aileron servos should be connected to the outputs GERA and AUX3 in the receiver, and the right aileron servos connected to AILE and GYRO in the receiver.

All the servos’ parameters can be adjusted, respectively.

2) V-TAIL

Touch the navigation mark of V-TAIL and expand a dropdown menu with Inhibit and Active. Choose Active.

Below is the sketch map of V-tail servos’ assignment:



English	**Your language**
Left empennage	
Right empennage	
Connect to the output ELEV in Receiver	

Connect to the output RUDD in Receiver	

3) Dual channels setting

Dual Channels can be set as Elevator, Aileron, Rudder, or Flaperon. It is of dual channel output function. The channel, which will be set as dual channel at AUX in Device Output (Refer to “2.11 Device Output”), should be previously set as Inhibit when the AUX channel is being set.

Setting method:

3.1) Channel selection:

Touch the navigation mark of Channel in the interface of Wing Type, and expand into Elevator, Aileron, Rudder, and Flap. We take Elevator as an example.

3.2) Mate setting

Click the navigation mark of Mate and expand a dropdown menu with Inhibit, Gear, Flap, AUX2, AUX3, AUX4, AXU5, AXU6, and AUX7.

Touch the desired channel in black. The channel, whose characters are shown in gray, has being applied.

3.3) Trim setting

Click the navigation mark of Trim and expand a submenu with Inhibit, Left Trim, Right Trim, AUX2 Lever, AUX3 Lever, AUX4 Lever, AUX5 Lever, AUX6 Knob, and AUX7 Knob. Choose the item that you want to select as trim lever.

3.4) the settings for Aileron, Rudder, and Flap in the item Channel are same as above.

4) Twin Engine

This function can be set as twin engine output to meet the requirement for the models, which are powered by twin engines.

4.1) Mate setting

Click the navigation mark of Mate and expand a dropdown menu with Inhibit and the inhibited channels previously set in “2.11 Device Output”. Choose the desired channel in black. These channels in gray are not available.

4.2) Trim setting

Click the navigation mark of Trim and expand into Inhibit, Left Trim, Right Trim, AUX2 Lever, AUX3 Lever, AUX4 Lever, AUX5 Lever, AUX6 Knob, and AUX7 Knob.

Touch the item which you want to set as the trim lever or knob for twin engines.

Click the icon to exit after finished.

2.13 Fixed ID

This setting will bind DEVO-12 and its receiver in a unique corresponding relationship. It will greatly speed up the time of automatic binding when DEVO-12 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 in the main interface, and then enter Fixed ID by touching the icon in Model Menu.

English	Your language
Navigation mark	

Touch the navigation 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.

English	Your language
Touch “On”	
A series of random digits is shown here	

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

English	**Your language**
Mini soft keyboard	

The new ID digits can be modified by touching the mini soft keyboard. Touch Match after the new ID is already set. An enquiry interface of “Are you sure?” pop up. “ID Code Match … …” will be shown after touching OK.

English	Your language
ID Code Setting	
ID Code	
Fixed ID	
Are you sure?	
Cancelled	
ID Code Match	

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.

DEVO-12 also needs to make relative cancellation and reversion after the fixed ID in receiver is cleared out.

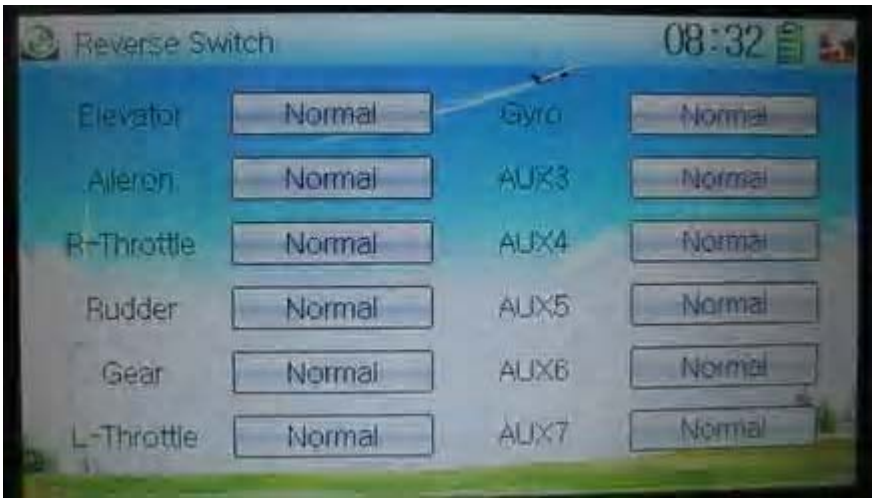
In the main interface touch the icon to enter Model Menu and then touch to enter Fixed ID. Touch ID Code Setting to expand the navigation mark into two statues On and Off. Touch Off. Then touch to exit.

3.0 Function Menu

Function Menu is used to make personalizedly fine adjustment to the selected models. It includes Reverse Switch, Travel Adjust, Sub Trim, Dual Rate and Exponential, Throttle Hold, Throttle Curve, Snap Roll, Differential setting, Balance setting, Gyro Sensor, Governor, Aileron to Rudder Mix, Elevator to Flap Mix, Rudder to Aileron/ Elevator Mix, Flap System, Aileron to Flaperon Mix, Pitch Curve, Program Mix, Monitor, Fail Safe, Trainer, and Timer.

3.1 Reverse switch

Touch the shortcut icon to enter Function Menu, and then click the icon to enter the interface of Reverse Switch.



There show all the reverse switches' statuses of travel channels. Touch the desired item to reverse its current status. The status includes two types: Normal and Reverse. The default setting is Normal.

Touch the icon to exit after finished.

3.2 Travel adjust

Touch the icon to enter Function Menu and then click the icon to enter the interface of Servo Adjust.

The interface contents two pages to show the current travel status of all the twelve channels. Touch the navigation mark of each item to increase or decrease corresponding travel adjustment amount. The adjustable range is 0.0-150.0%. The default setting is 100.0%.

Click the icon to exit after finished.

3.3 Sub trim

Sub Trim is used to make parallel movement of servos. It is recommended to adjust the servo bell crank if the servo is far away from its neutral point. The excessive usage of sub trim may damage the servo.

Setting method:

Touch the icon to enter Function Menu and then click the icon to enter the interface of Sub Trim.

Touch the navigation mark of the desired item to adjust the amount for rectifying the

servo's neutral point. The default neutral point is set at 0.0%. The adjustment range of each channel is shown as below:

English	Your language	English	Your language
Channel name		Adjustment range	
Right elevator		D62.5%-U62.5%	
Right aileron 1		R62.5%-L62.5%	
Throttle		L62.5%-H62.5%	
Rudder		R62.5%-L62.5%	
Left aileron 1		R62.5%- L62.5%	
Flap		D62.5%- U62.5%	
Right aileron 2		R62.5%- L62.5%	
Left aileron 2		R62.5%- L62.5%	
AUX4		-62.5%- +62.5%	
AUX5		-62.5%- +62.5%	
Left elevator		D62.5%- U62.5%	
AUX7		-62.5%- +62.5%	

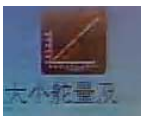
Note: the model names shown will be different with the selected channels different.

Click the icon to exit after finished.

3.4 Dual rate and exponential

It is possible to use D/R switch to control over the dual rate of elevator, aileron, and rudder after the function of Dual Rate and Exponential is set up. The setting range is 0-125%. Under the help with exponential curve adjustment, it is not only manually but also automatically to set up various parameters which are suitable for yourself.

Setting method:

Touch the icon to enter Function Menu and then click the icon  to enter the interface of Dual Rate and Exponential.

1) Channel selection

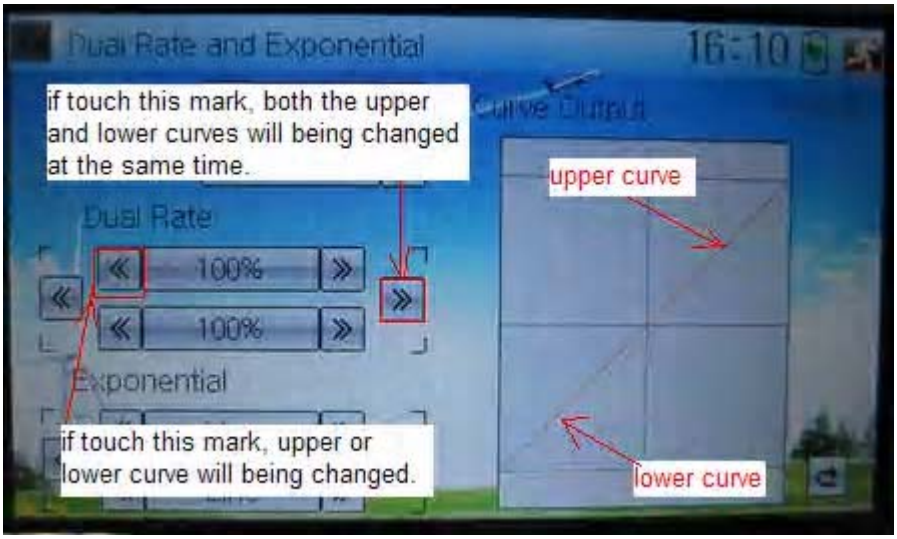
Touch the navigation mark of Channel and expand a selectable list including Elevator, Aileron, and Rudder. Click the desired channel which will be shown in Channel.

2) Position selection

Touch the navigation mark of Position and expand a selectable list including Pos 0, Pos 1, Pos 2, Pos 3, Pos 4, and Pos 5. Click the desired item which will be shown in Position. There will only show Pos 0, Pos 1, and Pos 2 in manual setting.

3) Dual Rate adjustment

It is possible to modify the value by touching the navigation mark of Dual Rate.



If touching the navigation mark for just one item to amend the dual rate value, the dual rate of the corresponding servo will be changed in one direction, while the curve will being changed in one direction at the right graph.

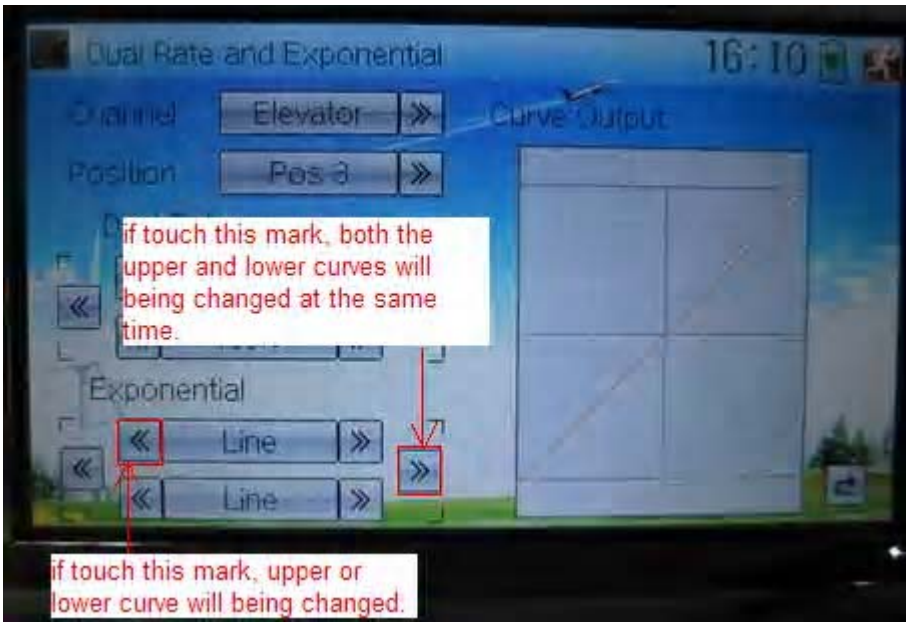
If touching the navigation mark for both items to amend the dual rate value, the dual rate of the corresponding servo will be changed while the curve will being changed at the same time, shown at the right graph. The default setting is 100%.

English	Your language
Upper curve	
Lower curve	
If touch this mark, both the upper and	

lower curves will being changed at the same time.	
If touch this mark, upper or lower curve will being changed.	

4) Exponential adjustment

It is possible to adjust the exponential output value of the servo at that point , which is set up in step “2) Position selection”, by touching the navigation mark of Exponential.



If touching the navigation mark for just one item to amend the dual rate value, the dual rate of the corresponding servo will be changed in one direction, while the curve will being changed in one direction at the right graph.

If touching the navigation mark for both items to amend the dual rate value, the dual rate of the corresponding servo will be changed while the curve will being changed at the same time, shown at the right graph. The default setting is Line.

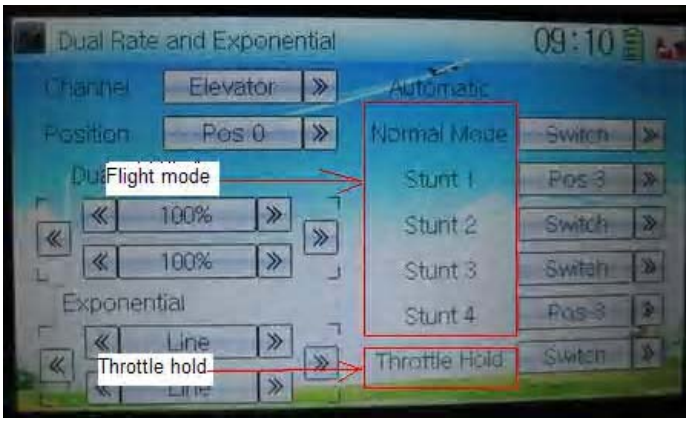
Then touch this mark to return to the interface of Dual Rate and Exponential.

5) Automatic setting

Under working with Flight Mode, it is possible to switch the dual rate and exponential, which are set in above 3) Dual Rate adjustment and 4) Exponential adjustment, respectively.

The settings for Normal Mode, Stun 1, Stunt 2, Stunt 3, Stunt 4, and Throttle Hold are available. But for Stunt 3 and Stunt 4, Flight Mode Extra Switch in Device Select of Mode Menu should be activated (Refer to “2.10 Device Select”), and Throttle Hold in Function Menu should be set as “Active” (Refer to “3.5 Throttle Hold” below).

Touch the flight mode that you want to set as automatic operation, and an expansion list will be shown. Click the desired position. If Switch is selected, it is only controlled by the corresponding dual rate lever.



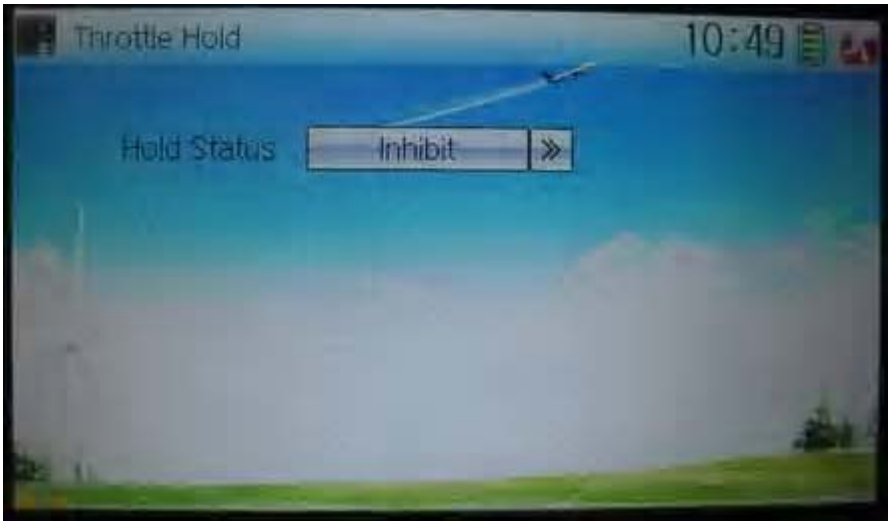
Click the icon to exit.

3.5 Throttle hold

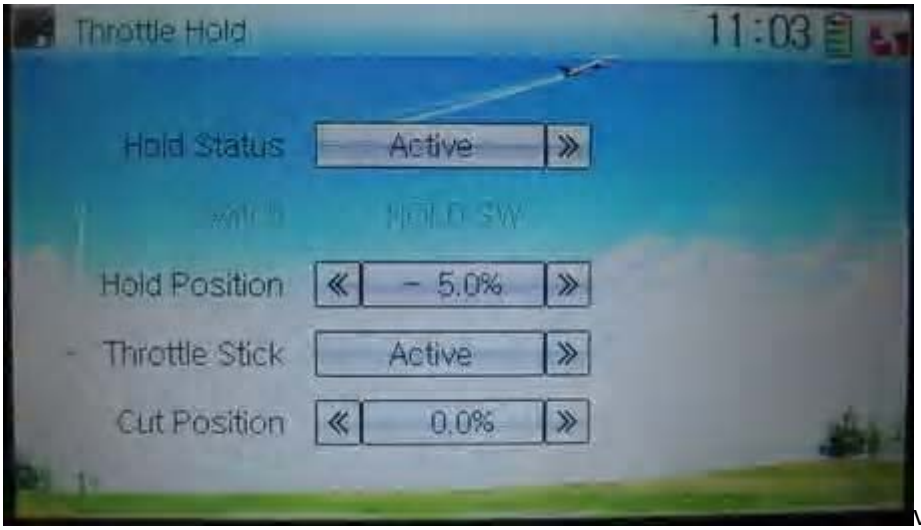
If this function is set, the switch will be executed by hold switch. The setting value of throttle hold is ranged from -20.0 to 50.0。

Setting method:

Touch the shortcut icon to enter Function Menu, and then click to enter the interface of Throttle Hold.



Touch the navigation mark of Hold Status, and an expansion list will be shown as Inhibit and Active. Click Active, there appeared Switch, Hold Position, and Throttle Stick in the following interface.



vv

1) Setting for Switch

This item is impossible to be set. The default setting is HOLD SW.

2) Setting for Hold Position

Touch the left navigation mark of the item Hold Position to decrease the position amount, whose minimum is -20.0%; touch the right to increase the position amount whose maximum is +50.0%.

3) Setting for Throttle Stick

Given the function is used. If the throttle hold lever is turned on, it is possible to set the throttle stick as the switch that enters the status of throttle holding.

Setting method:

Touch the navigation mark of Throttle Stick and an expansion list will be shown as Inhibit and Active. Click Active and pop up a dropdown menu of Cut Position.

Touch the left navigation mark of Cut Position to decrease the amount whose minimum is 0.0%; touch the right mark to increase the amount whose maximum is 100.0%.

Under the throttle hold turned on (pull the throttle hold lever forward), when moving the throttle stick to the point set by Cut Position from high position to low position, the throttle enters the locked status. That means the throttle is locked at the point set by Hold Position.

If pushing the throttle hold lever, the throttle locked status is released.

Click the icon to exit after all the settings are finished.

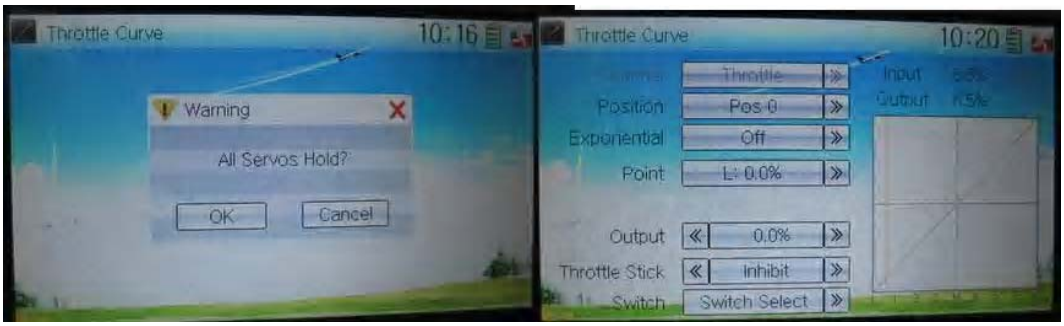
3.6 Throttle curve

Throttle curves are adjusted through nine points, which of all the flight modes can be respectively set. The left and right throttles can be separately set after it is previously

set as dual engines. Refer to Twin Engine at “2.12 Wing Type”

Setting method:

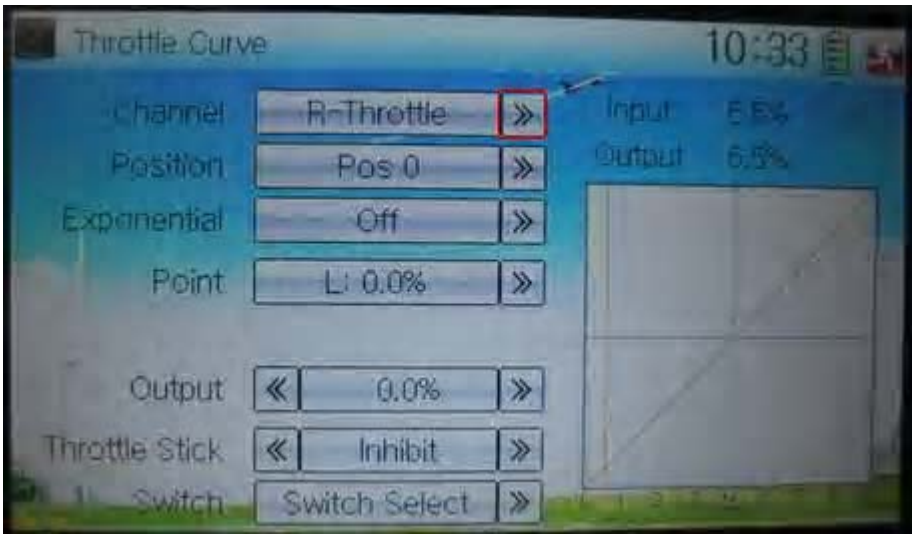
Touch the icon to enter Function Menu and then click the icon to enter the interface of Throttle Curve. An dropdown menu with “All Servos Hold?” pops up.



Click OK for all the servos locked at the current statuses. Click Cancel for all the servos unlocked.

1) Channel setting

After previously set up Twin Engine, touch the navigation mark of Channel and expand a list including Left Throttle and Right Throttle. Select the desired throttle which will be shown in Channel. Channel will be shown in grey if Twin Engine is not previously selected.



2) Position selection

Touch the navigation mark of Position and expand a list with Pos 0 and Pos 1. select the item you want to set.

3) Exponential setting

Touch the navigation mark of Exponential and expand a list with Off and On. The throttle curve will being changed smoothly if clicking On.

4) Position setting

Touch the navigation mark of Point and expand a list including nine points. Select the

point you want to adjust.

5) Status setting

Touch the navigation mark of Status and expand a list with Inhibit and Active. Click Inhibit for keeping the current value (the default setting is Inhibit); click Active for changing the above point's value. Another item Output will be shown below after choosing Active.

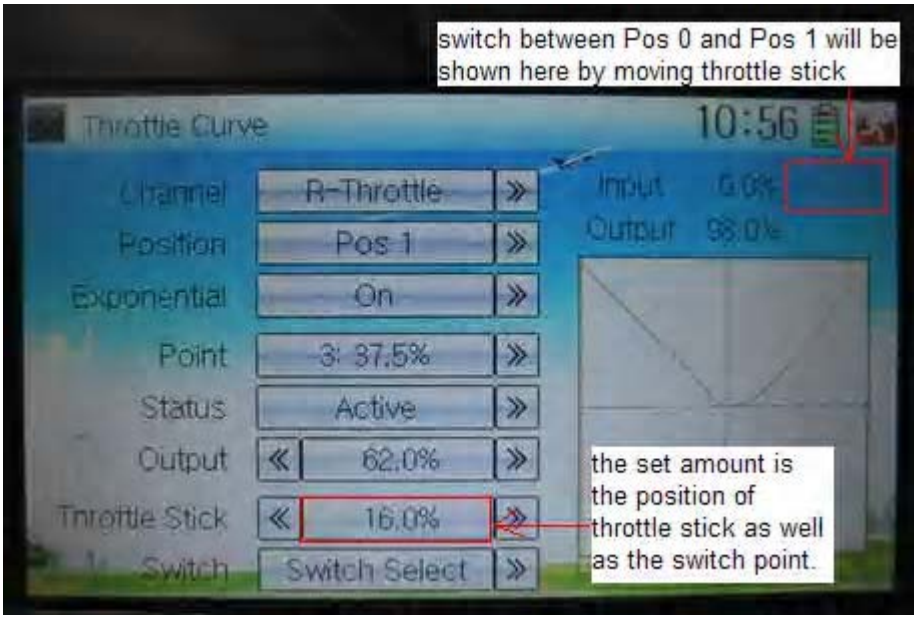
6) Output setting

Touch the left or right navigation mark of Output to decrease or increase, respectively, the output value. The adjustable range is from 0.0% to 100.0%.

7) Throttle setting

Touch the left or right navigation mark of Throttle Stick to decrease or increase, respectively, the amount with a lower limit of 0.0% and an upper limit of 100.0%. The default setting is Inhibit.

The switch between Pos 1 and Pos 0 can be freely realized through throttle stick after the above amount has been set up.



English	Your language
Switch between Pos 0 and Pos 1 will be shown here by moving throttle stick.	
The set amount is the position of throttle stick as well as the switch point.	

The above set amount is the position of throttle stick as well as the switch point.

8) Switch selection

When the item Throttle Stick is set in Inhibit, it is possible to switch between Pos 0 and Pos 1 by Switch.

Touch the navigation mark of Switch and expand a dropdown menu including the selectable items in black. Select the desired item whose left side will be changed into “1” from “0”. If two items are selected, And should be chosen. Then touch the navigation mark of Switch to return back.

Click the icon to exit after finished.

3.7 Snap roll

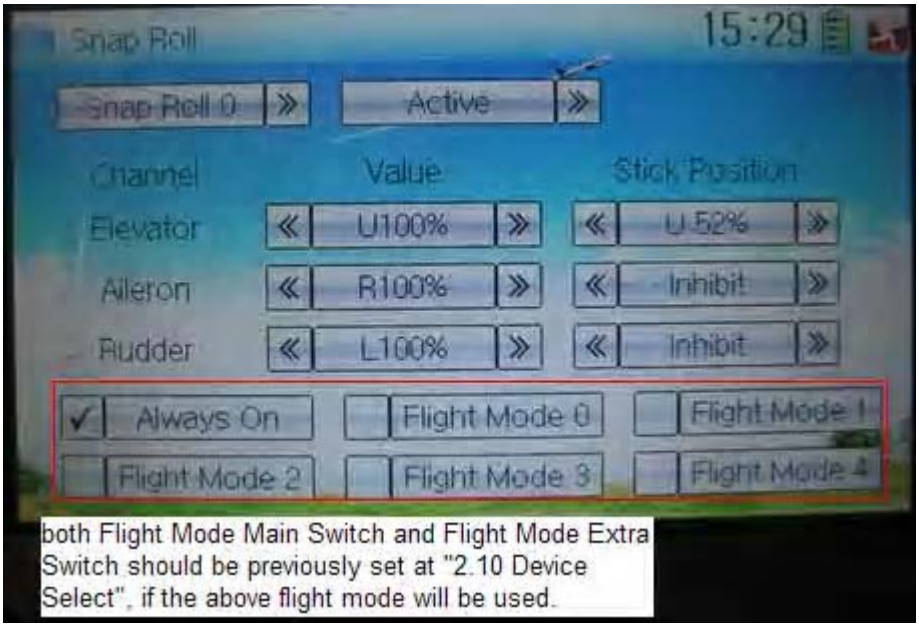
After the function of Snap Roll is set up, the switch or stick can be used to control over the snap roll flight.

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Snap Roll.

Setting for snap roll: touch the navigation mark of Snap Roll and expand a dropdown menu with five Snap Rolls. Click the snap roll you want to use.

Touch the navigation mark of Inhibit and expand two options: Inhibit and Active. A dropdown menu will be expanded after Active selected.



There show such items as Channel, Value, Stick Position and the flight mode (if both Flight Mode Main Switch and Flight Mode Extra Switch should be previously set at Device Select in Model Menu, if the flight mode will be used. Refer to “2.10 Device Select”). Through changing the amounts of Elevator, Aileron, and Rudder, respectively, set the snap roll flight in the actions of left or right ascending, or left or right descending. The snap roll flying can be controlled by the Training lever, or by setting the corresponding stick position.

1) Value setting

Change the value, by touching the left or right navigation mark of Elevator, Aileron, or Rudder, to set the corresponding servo lever’s angle and the control direction. The adjustable range is 0-125%.

2) Stick position setting

Change the position, by touching the left or right navigation mark of Elevator, Aileron, or Rudder, to set the stick position and the control direction. If Stick Position is set as Inhibit, only Training lever can control over the snap roll flying.

3) Flight mode selection

It can be set in various flight modes whether or not to use the snap roll function. All the flight modes are shown at the bottom or interface. Click the flight mode you want.

Click the icon to exit after finished.

3.8 Differential

If want to use this function, Flaperon, DELTA, or 4-Aileron should be previously selected in Wing Type of Model Menu. Refer to “2.12 Wing Type”.

A. Aileron differential setting:

Touch the shortcut icon to enter Function Menu, and then click the icon to enter the interface of Differential.

Mounting servos in left and right ailerons are a must if using this function. The following interface will be shown after Flaperon, DELTA, or 4-Aileron selected in Wing Type. Refer to “2.12 Wing Type”.

1) Setting for Pos 0

Touch the left or right navigation mark of Pos 0 to decrease or increase, respectively, differential value. The bigger the value is, the bigger the differential is. The adjustable range is ± 100%.

2) Setting for Pos 1

The setting is same as above.

3) Switch selection

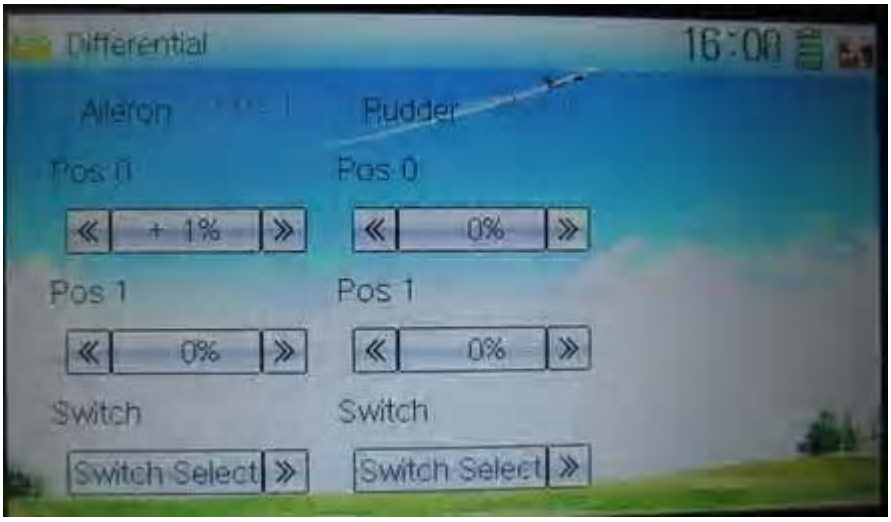
It is possible to switch by setting switch when differential is in use.

Touch the navigation mark of Switch and expand a selectable list. Click the switch item, which you desire, to change “0” into “1”. If two or more switch items are selected, And should be chosen. Then click the navigation mark to return.

Click the icon to exit after finished.

B. Rudder differential setting

V-Tail should be previously set in Wing Type of Model Menu if the rudder differential function is activated. Refer to “2.12 Wing Type”. And then the following interface will be shown:



1) Setting for Pos 0

Touch the left or right navigation mark of Pos 0 to decrease or increase, respectively, differential value. The bigger the value is, the bigger the differential is. The adjustable range is ± 100%.

2) Setting for Pos 1

The setting is same as above.

3) Switch selection

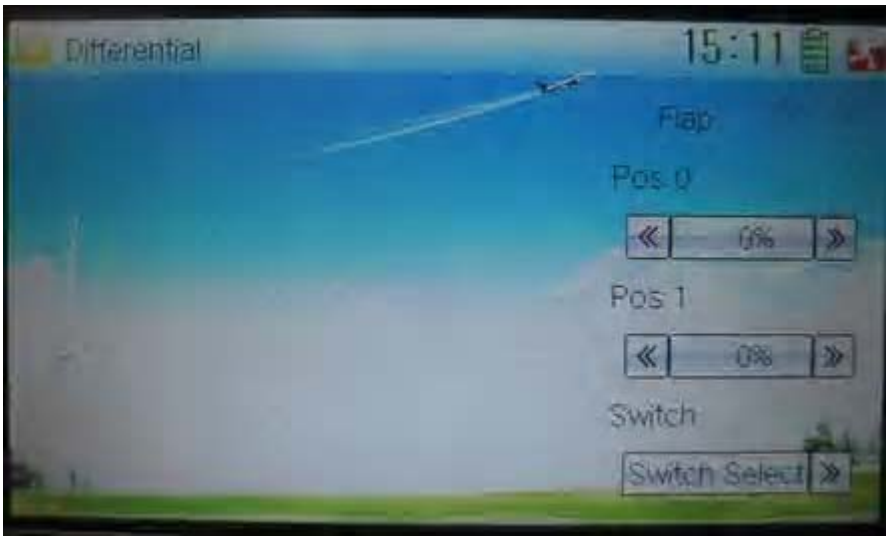
It is possible to switch by setting switch when differential is in use.

Touch the navigation mark of Switch and expand a selectable list. Click the switch item, which you desire, to change “0” into “1”. If two or more switch items are selected, And should be chosen. Then click the navigation mark to return.

Click the icon to exit after finished.

C. **Flap differential setting**

It should be previously set the flap dual channel function in Device Output at Model Menu (refer to “2.12 Wing Type”) in order to activate the menu of Flap Differential.



1） Setting for Pos 0

Touch the left or right navigation mark of Pos 0 to decrease or increase, respectively, differential value. The bigger the value is, the bigger the differential is. The adjustable range is ± 100%.

2） Setting for Pos 1

The setting is same as above.

3) Switch selection

It is possible to switch by setting switch when differential is in use.

3.9 Balance

This function can adjust the parameters of the two servos which are used in the dual channels. It should be previously chosen one of the these wing types of Flaperon, DELTA, 4 Aileron, and V Tail in Wing Type at Model Menu. Refer to “2.12 Wing Type”.

Setting method:

Touch the icon to enter Function Menu, and then click the icon

to enter the interface of Balance.

1) Channel selection

Touch the navigation mark of Channel and expand a selectable list. Choose the desired channel.

2) Point parameter adjustment

Touch the navigation mark of Point that you want to select, and pops up a dropdown menu including Inhibit and Active. Click Active for adjusting the value by touching the left or right navigation mark. 0% means no adjusting. A minus value means the amending direction is downward, and a plus value means the amending direction is upward.

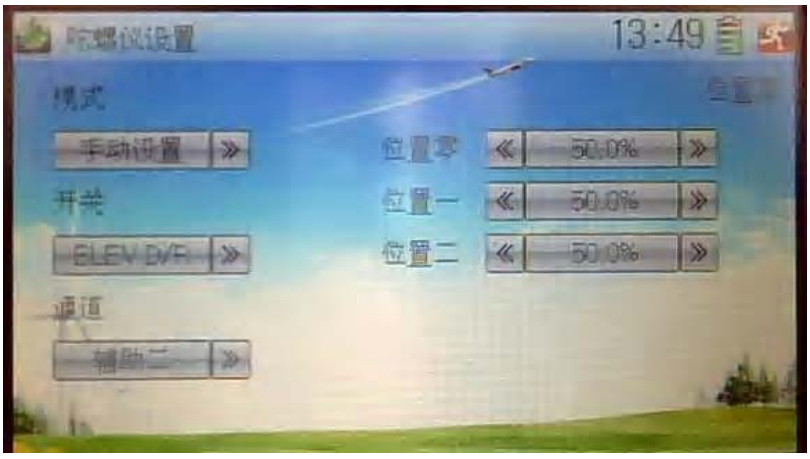
Click the icon to exit after finished.

3.10 Gyro sensor

This function offers the gain adjustment for gyro sensor, which can be manually set through D/R switches or Flight mode switch, and also is possible to be automatically switched various gains through flight mode switch. (The flight mode should be activated. Refer to “2.10 Device Select” for).

Setting method:

Touch the icon to enter Function Menu, and then touch the icon to enter the interface of Gyro Sensor.



A) Manual setting

1) Mode selection

Touch the navigation mark of Mode and expand into two options: Manual and Automatic. Select Manual.

5) Switch selection

Touch the navigation mark of Switch and expand into five articles: FMODE SW, MIX SW, ELEV D/R, AILE D/R, and RUDD D/R.

6) Channel setting

The default setting is AUX 2. It is possible to alter into other channels by choosing in the item of Device Output (refer to “2.11 Device Output”).

7) Gain adjustment

There are total three levels for respective setting: Pos 0, Pos 1, and Pos 2.

4.1) Pos 0

Touch the left or right navigation mark of Pos 0 to decrease or increase the amount, respectively. If the gyro you use has two modes of NOR or AVCS, AVCS will be activated when the amount is above 50.0%. The bigger the amount is, the bigger the gyro sensor gain becomes. The default setting is 50.0%.

4.2) Pos 1

Refer to the step of “4.1) Pos 0”.

4.3) Pos 2

Refer to the step of “4.1) Pos 0”.

B) Automatic setting

3) Mode selection

Touch the navigation of Mode and expand into two options: Manual and Automatic. Select Automatic.

4) Channel output

The default setting is AUX 2. It is possible to alter into other channels in the interface of Device Output (Refer to “2.11 Device Output”).

3） Flight mode selection

All the flight modes are shown in the right interface which includes Normal Flight, Stunt 1, Stunt 2, Stunt 3, Stunt 4, and Throttle Hold.

For Stunt 3 and Stun 4, Flight Mode Extra Switch should be activated in Device Select

as well as Throttle Hold Switch is set as HOLD SW (Refer to “2.10 Device Select”).

Click the left or right navigation mark of the flight mode, which you want to automatically adjust, to decrease or increase the amount of gyro gains, respectively. If the gyro you use has two modes of NOR or AVCS, when the amount is less than 50.0%, NOR mode is activated. The lesser the amount is, the bigger the gyro gain becomes. The default setting is 50.0%.

Click the icon to exit after finished.

3.11 Governor

Governor should be set at Device Output (Refer to “2.11 Device Output”).

The control proportion of governor can be separately set in various flight modes. For the absolute revolution amount, please set in external governor. The amount shown in DEVO-12’s governor is just a percentage for reference. The actual revolution should be read in the external governor.

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Governor.

The output channel, current statuses of flight modes and usable flight modes are shown in the interface. According to the requirement, touch the corresponding flight mode to set the amount. Click the left or right navigation mark to separately decrease or increase the amount. The adjustable range is ± 125%.

The usable flight modes include Normal Mode, Stunt 1, Stunt 2, Stunt 3, Stunt 4, and Throttle Hold.

Click the icon to exit after finished.

3.12 Aileron to Rudder Mix

This function is possible to execute the mix of aileron to rudder, which is controlled by switch.

Setting method:

Touch the icon to enter Function Menu, and then click the icon

to enter the interface of Aileron to Rudder Mix.

1) Pos 0 Setting

Touch the left or right navigation mark of Left to change the value, and leftward mix value of aileron to rudder will be changed. The mix direction will be revised by changing the symbol of plus or minus before the value. The adjustable range is ±125%.

Touch the left or right navigation mark of Right to change the value, and the rightward mix value of aileron to rudder will be changed. The mix direction will be revised by changing the symbol of plus or minus before the value. The adjustable range is ±125%.

2) Pos 1 setting

The setting is same as above.

3) Throttle stick setting

The switch between Pos 0 and Pos 1 can be realized by setting the position of throttle stick. Touch the left or right navigation mark of Throttle Stick to the position amount of throttle stick. The default setting is Inhibit. The adjustable range is 0.0-100.0%.

4) Switch setting

Touch the navigation mark of Switch and expand a dropdown menu including some selectable items. Click the desired item and “0” before the item will be changed into “1”. If two or more items are selected, And should be selected. Then touch the navigation mark to return back.

Click the icon to exit after finished.

3.13 Elevator to flap mix

This function is used to execute the mix of elevator to flap.

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Elevator to Flap Mix.

1) Pos 0 setting

Touch the left or right navigation mark of Up to change the value, and upward mix value of elevator to flap will be changed. The mix direction will be revised by changing the symbol of plus or minus before the value. The adjustable range is ±125%.

Touch the left or right navigation mark of Down to change the value, and the downward mix value of elevator to flap will be changed. The mix direction will be revised by changing the symbol of plus or minus before the value. The adjustable range is ±125%.

2) Pos 1 setting

The setting is same as above.

3) Throttle stick setting

The switch between Pos 0 and Pos 1 can be realized by setting the position of throttle stick. Touch the left or right navigation mark of Throttle Stick to the position amount of throttle stick. The default setting is Inhibit. The adjustable range is 0.0-100.0%.

4) Switch setting

Touch the navigation mark of Switch and expand a dropdown menu including some selectable items. Click the desired item and “0” before the item will be changed into “1”. If two or more items are selected, And should be selected. Then touch the navigation mark to return back.

Click the icon to exit after finished.

3.14 Rudder to aileron/elevator mix

This function is used to execute the mix of rudder to aileron/ elevator. It will help eliminate waver or shake caused by rudder stick operation.

Setting method:

Touch the icon to enter Function Menu, and then click the interface of Elevator to

Aileron/ Elevator Mix.

1) Elevator setting

1.1) Pos 0 setting:

Touch the left or right navigation mark of Left at Pos 0 to change the value, and the leftward mix value of rudder to elevator will be changed.

Touch the left or right navigation mark of Right at Pos 0 to change the value, and the l rightward mix value of rudder to elevator will be changed.

The mix direction will be revised by changing the symbol of plus or minus before the value. The adjustable range is ±125%.

1.2) Pos 1 setting

Setting is same as above.

2) Aileron setting

Setting is same as above.

3) Throttle stick setting

The switch between Pos 0 and Pos 1 can be realized by setting the position of throttle stick. Touch the left or right navigation mark of Throttle Stick to the position amount of throttle stick. The default setting is Inhibit. The adjustable range is 0.0-100.0%.

4) Switch setting

Touch the navigation mark of Switch and expand a dropdown menu including some selectable items. Click the desired item and “0” before the item will be changed into “1”. If two or more items are selected, And should be selected. Then touch the navigation mark to return back.

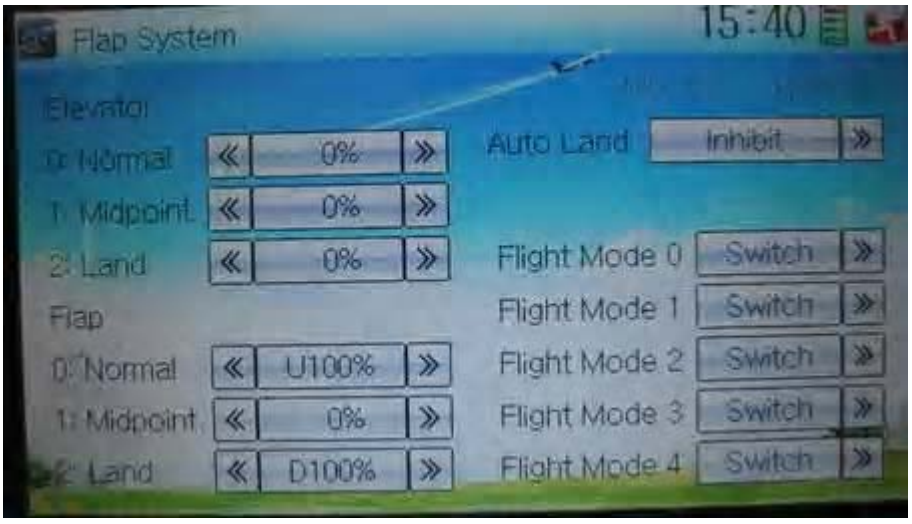
Click the icon to exit after finished.

3.15 Flap system

This function can modify some effects on elevator. It is possible to set three statuses of elevator and three statuses of flap, respectively, through three-way flap control switch.

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter Flap System.



1) Elevator setting

There three options: 0: Normal, 1: Midpoint, and 2: Land.

1.1) 0: Normal position

Touch the navigation mark of Normal to change the mix amount. It is possible to change the direction by altering D or U before the amount. The default setting is 0%. The adjustable range is U125% to D125%.

1.2) 1: Midpoint

The setting is same as above.

1.2) 2: Land

1.3) The setting is same as above.

2) Flap setting

The setting for Flap is same as Elevator.

3) Auto land

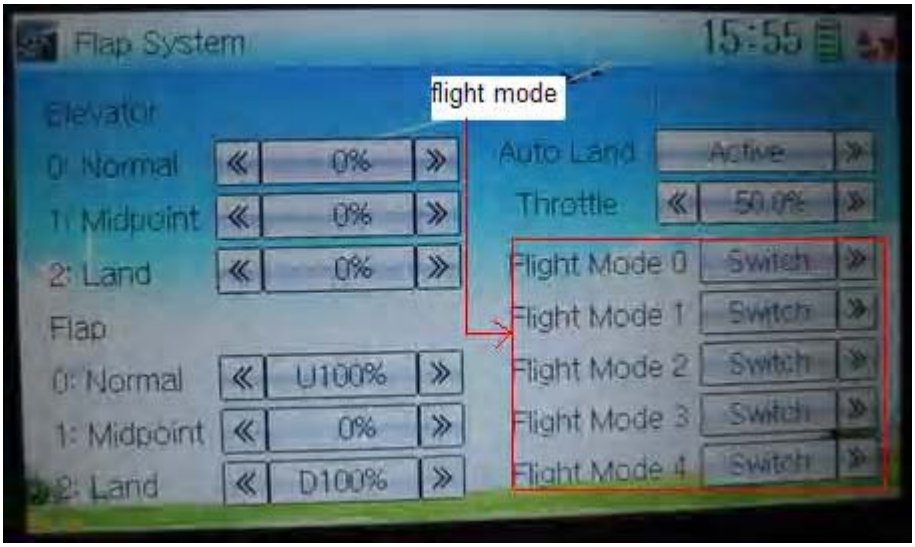
Touch the navigation mark of Auto Land, and expand a dropdown menu including Inhibit and Active. If select Active, another sub menu Throttle will be shown under Auto land.

3.1) Throttle stick position setting

Touch the navigation mark of Throttle to set the throttle stick position. The adjustable range is 0.0-100.0%.

3.2) Flight mode setting

Auto landing switch can be set in a certain flight mode. This setting should be previously set in Wing Type at Model Menu. Refer to “2.13 Wing Type”.



Touch the navigation mark of the selected flight mode, and pops up a menu with

Switch, Normal, Midpoint, and Land.

The selected item will be shown in the corresponding flight mode. Select Switch for manual control of landing.

Click the icon to exit.

3.16 Aileron to flap mix

This function can execute the mix of aileron to flap, and can also be set as switch. The flap dual channels should be previously set in Wing Type at Model Menu (Refer to “2.12 Wing Type”).

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Aileron to Flap Mix.

1) Pos 0 setting

Touch the left or right navigation mark of Left at Pos 0 to change the leftward mix value of aileron to flap.

Touch the left or right navigation mark of Right at Pos 0 to change the rightward mix value of aileron to flap.

The mix direction will be revised by changing the symbol of plus or minus before the value. The adjustable range is ±125%.

2) Pos 1 setting

The setting is same as the above.

3) Throttle Stick setting

The switch between Pos 0 and Pos 1 can be realized by setting the position of throttle stick. Touch the left or right navigation mark of Throttle Stick to the position amount of throttle stick. The default setting is Inhibit. The adjustable range is 0.0-100.0%.

4) Switch setting

Touch the navigation mark of Switch and expand a dropdown menu including some selectable items. Click the desired item and “0” before the item will be changed into “1”. If two or more items are selected, And should be selected. Then touch the navigation mark to return back.

Click the icon to exit.

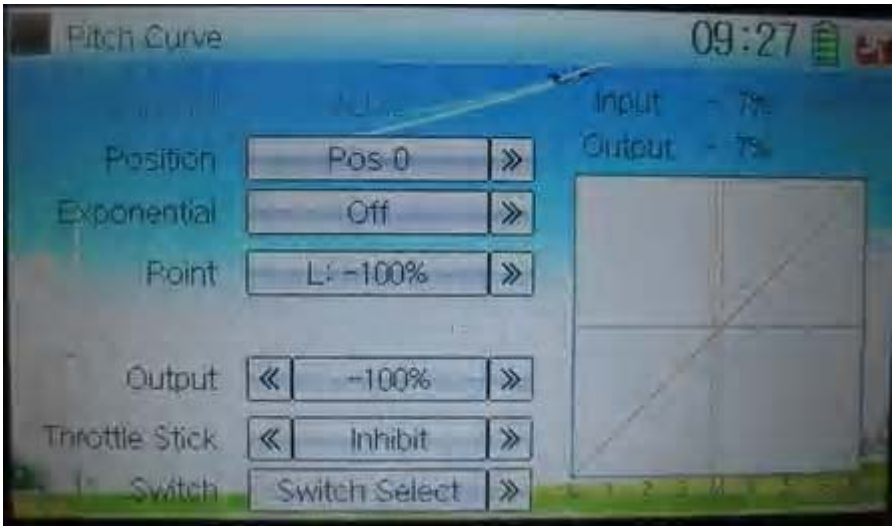
3.17 Pitch curve

Pitch Curve can be adjusted via nine points. Pitch curves of Pos 0 and Pos 1 can be set, respectively. The item Pitch should be previously set in Device Output at Model Menu (Refer to “2.12 Device Output”).

Setting method:

Touch the icon to enter Function Menu and then click the icon

to enter the interface of Pitch Curve. A dropdown menu with “All Servos Hold” will pop up. Click OK for holding all the current statuses of servos, and click Cancel for un-holding the current statuses. And the interface will show the current used channel and the current position statuses of switches.



1) Position setting

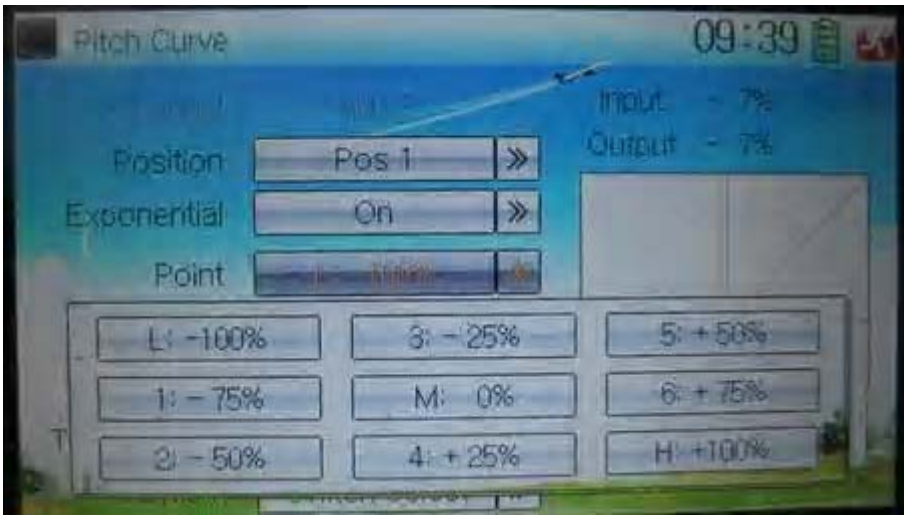
Touch the navigation mark of Position and expand a sub menu with Pos 0 and Pos 1. Choose the desired position.

2) Exponential setting

Touch the navigation mark of Exponential, and expand a sub menu with Off and On. Click On for smooth changes in pitch curve.

3) Point setting

Touch the navigation mark of Point and expand a dropdown menu including nine points. Choose the point you want to adjust.



4) Status setting

Touch the navigation mark of Status and expand a list with Inhibit and Active. Click Inhibit for keeping the value of the selected point. The default setting is Inhibit. The item of Output will pop up after clicking Active

5) Output setting

Touch the left or right navigation mark of Output to decrease or increase, respectively, the output value. The adjustable range is ± 100%.

6) Throttle stick setting

The throttle stick can be set as a switch by touching the navigation mark of Throttle Stick. The adjustable range is 0.0 – 100.0%. Choose Inhibit and the throttle stick will not be set as a switch.

7) Switch setting

Touch the navigation mark of Switch and expand a selectable list. Click the switch item that you want to set. If two or more switches are selected, And should be chosen.

Then click the icon to exit.

3.18 Program mix

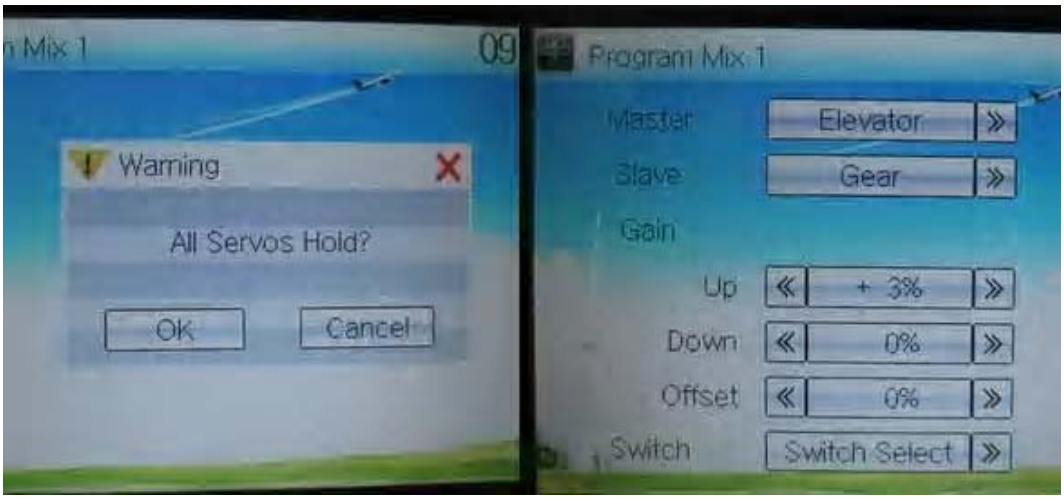
There are total eight sets of Program Mix. It is possible to freely set the channels and amounts which you want to select and amend, respectively.

Setting method:

Touch the icon to enter Function Menu, and then click to enter the interface of Program Mix. Eight Program Mix names and their current statuses are shown (the factory default setting is Inhibit). Take Program Mix 1 as an example to show how to use.

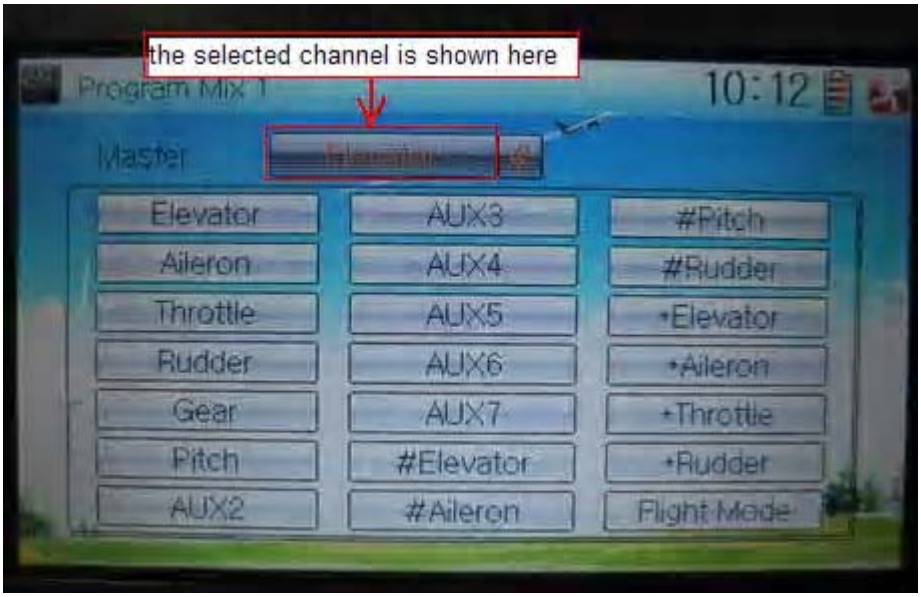
A) Setting method for Normal in Program Mix 1

Touch the item Normal in Program Mix 1 and expands an enquiry “All Servos Hold?” Click OK for all the servos will be locked at the current statuses; click Cancel for unlocked. Enter the next interface after clicking.



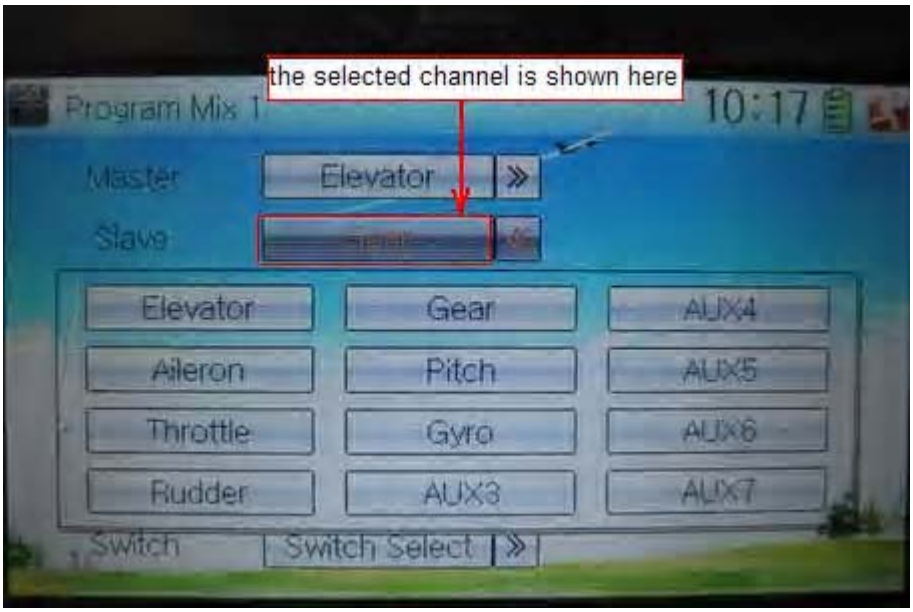
4) Mater channel setting

Touch the navigation mark of Master and expands a selectable dropdown menu. After clicking the desired channel the channel name will be shown in Master.



5) Slave channel setting

Touch the navigation mark of Slave and expands a selectable dropdown menu. Click the desired channel which will be shown in Slave.



6) Gain setting

Take an example of Elevator as Master channel.

3.1) Mix amount setting when elevator stick moved upward

Touch left or right navigation mark of Up to decrease or increase, separately, the mix amount. It is possible to reverse mix direction through changing the plus or minus sign before amount. The adjustable range is ±125%.

3.2) Mix amount setting when elevator stick moved downward

Touch left or right navigation mark of Down to decrease or increase, separately, the mix amount. It is possible to reverse mix direction through changing the plus or minus sign before amount. The adjustable range is ±125%.

6) Offset setting

This function can make Slave begin to mix through switch from a certain point as the starting point.

Touch the left or right navigation mark of Offset to decrease or increase, respectively, the mix amount. It is possible to reverse the offset direction through changing the plus or minus sign before amount. The adjustable range is ±125%.

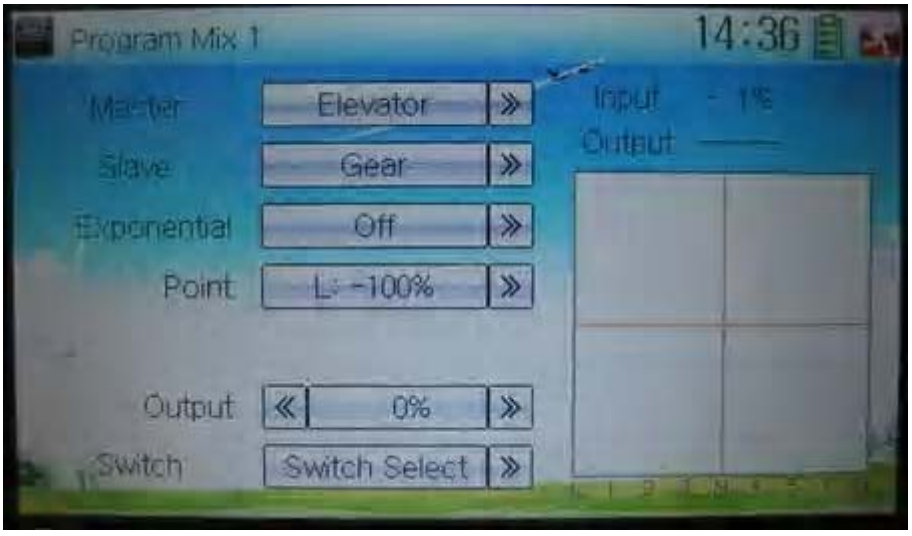
7) Switch selection

Touch the right navigation mark of Switch and pop up a dropdown menu which contains the adjustable items. Click the desired switch. Then touch the right navigation mark to return the previous interface.

Click the icon to return to the interface of Program Mix for other setting, or click the icon once again to exit.

B) Setting method for Curve in Program Mix2

Touch the item Curve in Program Mix 1 and expands an enquiry “All Servos Hold?” Click OK for all the servos will be locked at the current statuses; click Cancel for unlocked. Enter the next interface after clicking.



8) Master channel setting

Touch the navigation mark of Master and expand a selectable dropdown menu. Select the desired channel and its name will be shown in Master. Click the navigation mark of Master to return to the interface of Program Mix 1.

9) Slave channel setting

Touch the navigation mark of Slave and expand a selectable dropdown menu. Select the desired channel and its name will be shown in Slave. Click the navigation mark of Slave again to return to the interface of Program Mix 1.

10) Exponential

Touch the navigation mark of Exponential and expand a dropdown menu with two options of Off and On. The pitch curve will be smoothly changed if choosing On. Otherwise choosing Off.

11) Point

Touch the navigation mark of Point and expand a dropdown menu with nine points. Click the point you want to set, and then touch the navigation mark to return.

12) Status

Touch the navigation mark of Status and expand a dropdown with two options of Inhibit and Active. Touch Inhibit for unchanging the current amount (the default setting is Inhibit); click Active for changing the amount.

13) Output

Touch the left or right navigation mark of Output to decrease or increase, respectively, the output amount. It is possible to reverse the mix direction by changing the plus or minus sign before the amount. The adjustable range is ±125%.

14) Switch

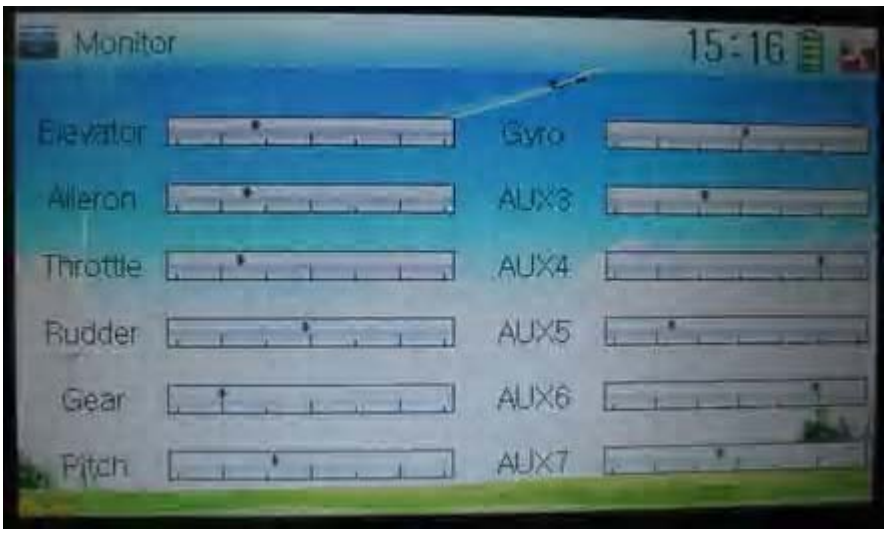
Touch the navigation mark of Switch and expand a usable dropdown menu. Select the desired switch, and then click the navigation mark to return.

Click the icon to return to the interface of Program Mix for other setting, or click the icon once again to exit.

3.19 Monitor

This function can display the current statuses and positions of all the channels' outputs, and check the current working status of each channel.

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Monitor for checking the current working status of each channel.



Click to the icon exit after finished.

3.20 Fail safe

There are two possibilities for use if the transmission signal is under abnormal

condition. The first one is to lock the last action data received; the second one is to execute the pre-set data which is pre-set. The default setting is Servo Hold.

Setting method:

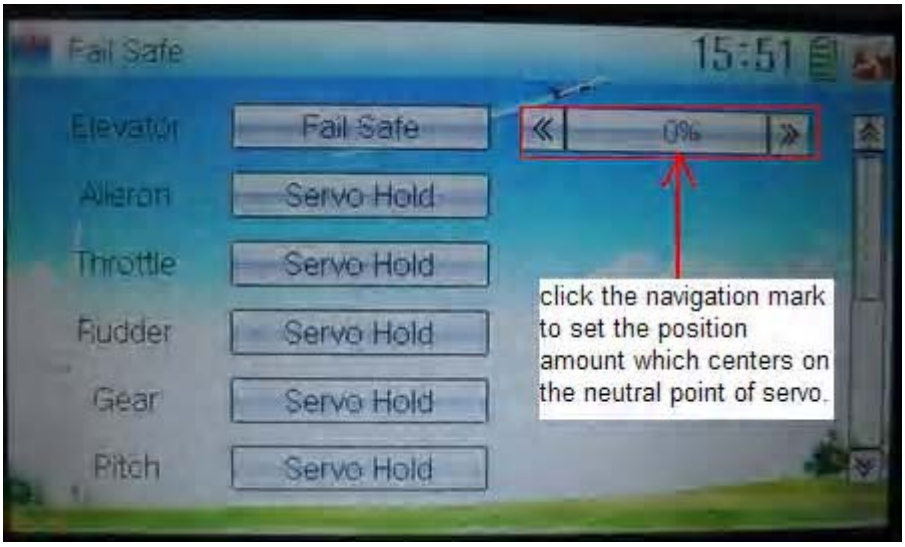
Touch the icon to enter Function Menu, and then click

to enter the interface of Fail Safe.

Take the item Elevator as an example to explain.

Elevator setting:

Touch the item Elevator and expand a sub-item in its right. Click the left or right navigation mark to decrease or increase, respectively, the position amount which centers on the neutral point of servo.



The setting methods for other channels are same as above.

Click the icon to exit after finished.

Note: checking whether all the actions when fail safe happened are correct is a must after the setting is finished. It is dangerous to use full throttle, especially after fail safe taken place.

3.21 Trainer

The training function can be practiced via two DEVO-12 equipments.

Setting method:

A) Data copy

Using the wireless copy function of the two DEVO-12 transmitters, the model data saved in the trainer's transmitter can be transmitted to the trainee's to ensure the model parameters are exactly same. Regarding the copying method, refer to "2.4 Model Wireless Copy"

B) Linkage

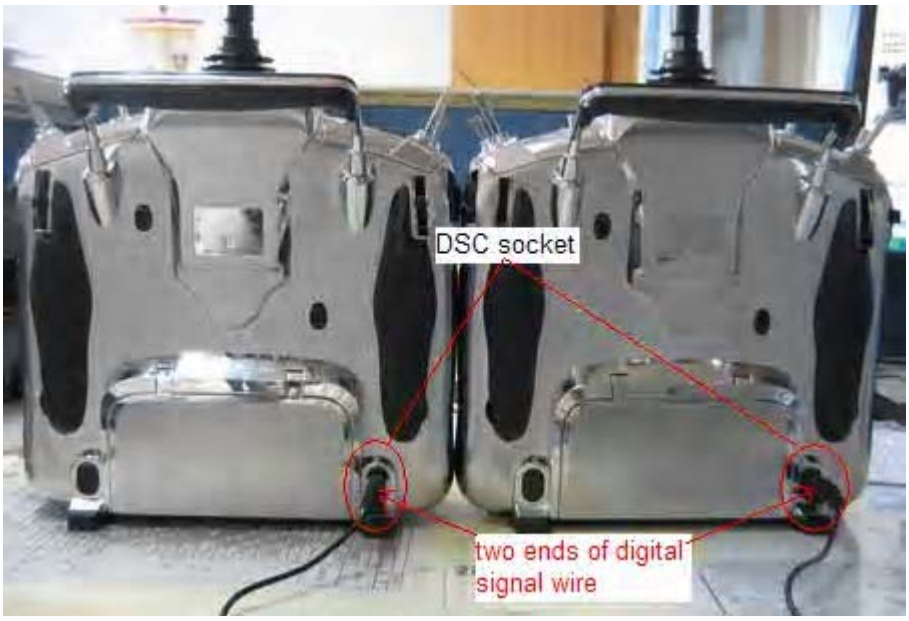
Insert one end of the signal wire into DSC socket at the rear face of the trainee's DEVO-12, and then turn on the power. A linkage icon will be shown on the boot screen. Find out the trainee's model data.

English	Your language
Linkage icon at trainee's icon	

Turn on the power of the trainer's DEVO-12. Find out the trainee's model data, and let the trainer's DEVO-12 fly the aircraft model normally. Then turn off the power.

Insert the other end of the digital signal wire into the trainer's DEVO-12, and then turn on its power. A linkage icon will be shown as below:

English	Your language
Linkage icon at trainer's DEVO-12	



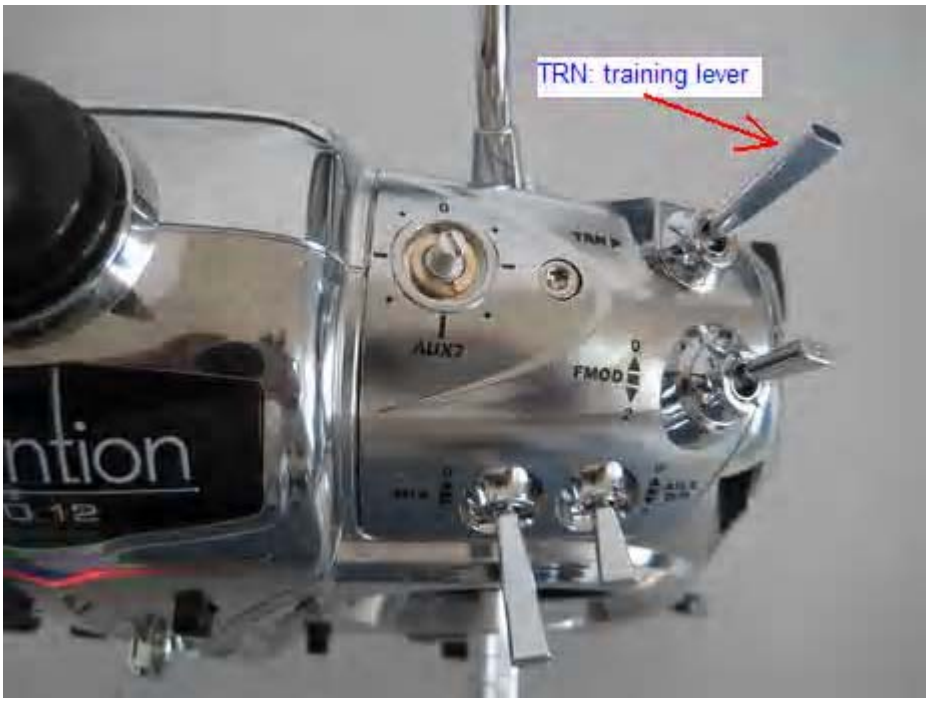
English	Your language
DSC socket	
Two ends of digital signal wire	

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.

English	Your language
Trainee is off and trainer is working	
Trainee is working and trainer is off	

C) Usage method

The training switch should be worked with the TRN training lever at the right top of DEVO-12.



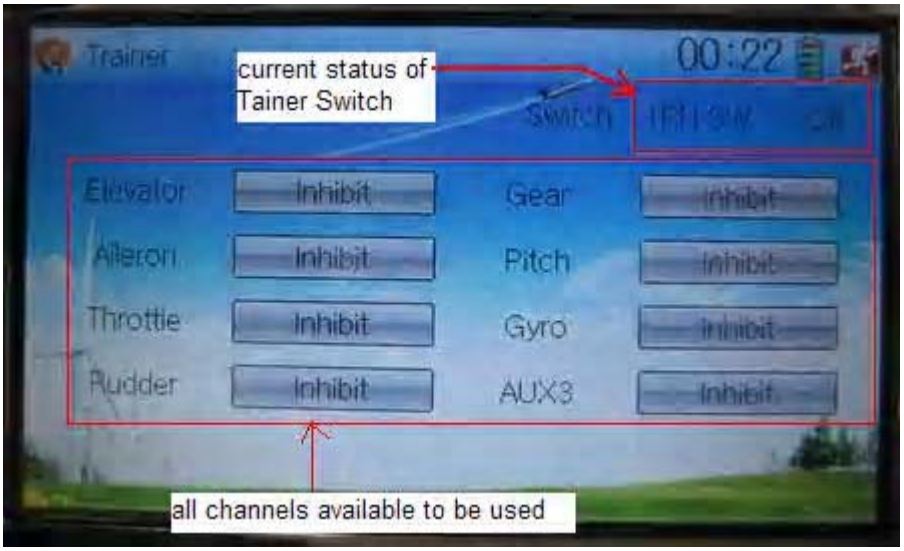
English	**Your language**
TRN: training lever	

If the trainer's finger pulls the training lever TRN, a "√" is shown in the linkage icon; if the trainer releases his finger from the trainer lever, an "X" will be shown there.

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-12. Below is the setting method:

Touch the shortcut icon to enter Function Menu, and then touch in Function Menu access to Trainer screen. The available channels are shown below, and the current status of trainer switch TRN is also shown.



English	Your language
Current status of Trainer Switch (TRN SW)	
All channels available to be used	

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

Touch to save and exit after finished.

3.22 Timer

There are two timers which can be set as stopwatch and countdown, respectively. Each timer can be operated by switch or by shortcut.

Setting method:

Touch the icon to enter Function Menu, and then click the icon

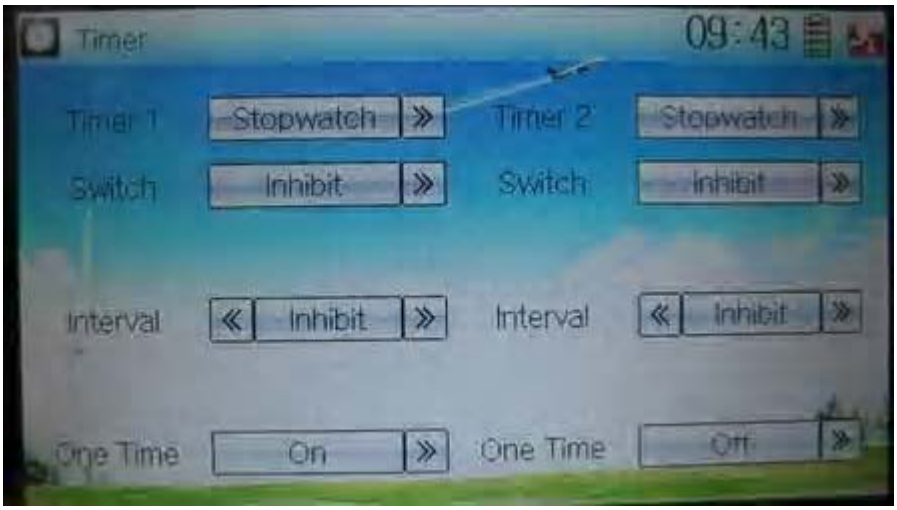
to enter the interface of Timer.

A) Setting for Timer 1

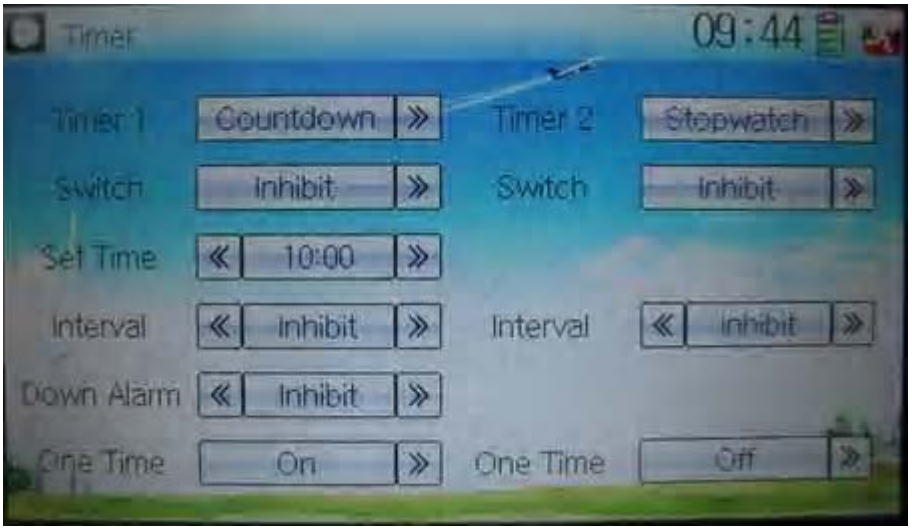
7) Timer 1 setting

Touch the navigation mark of Timer 1 and expand a dropdown of Stopwatch and Countdown. Select the desired timing method. The timing range of stopwatch is from 0 to 59:59 (59 minutes 59 seconds).

Stopwatch view:



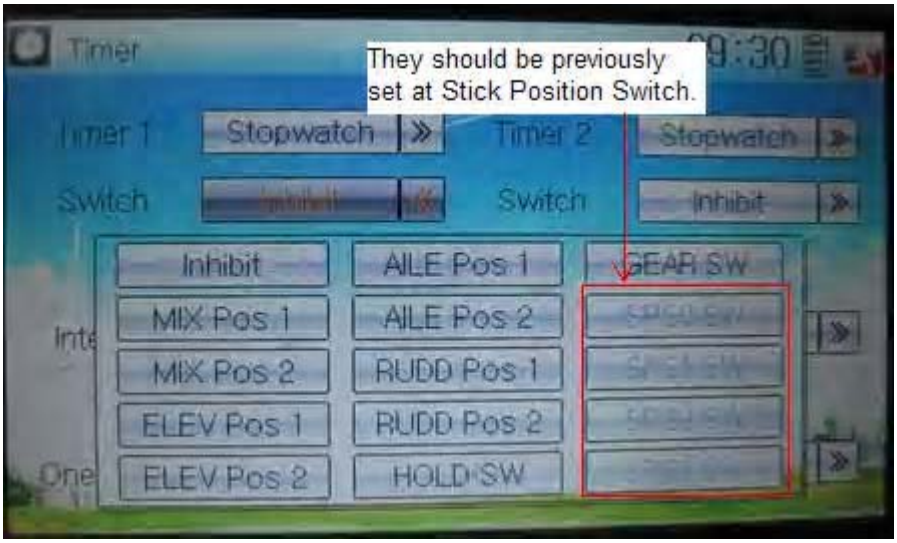
Countdown view:



Take countdown manner as an example to explain.

8) Switch selection

Touch the navigation mark of Switch and get a selectable dropdown



We can select the desired item but these items of SPS0 SW, SPS1 SW, SPS2, and SPS3 which should be previously set at Stick Position Switch at Model Menu (refer to “2.8 Stick Position Switch”).

9) Set time

The settable countdown time range is from 00:05 to 59:55.

10) Interval

This item offers the possibility to set the warning interval. It will warn once every interval time. The adjustable range is from 00.05 to 05:00. The default setting is Inhibit.

11) Down alarm

It is possible to set the down alarm in countdown. The setting range is from 00:01 to 03:00. The default setting is Inhibit.

12) One time

If this function is turned on, counting down cannot be stopped once the countdown works. The default setting is Off.

B) Setting for Timer 2 is same as that for timer 1.

Touch the icon to exit after finished.

Part four: Glider

1.0 System menu

N/O	English name	Your language	N/O	English name	Your language
1	Elevator trim		10		
2	Flap trim		11		
3	Flight mode		12		
4	Timer		13		
5	Flaperon mix icon		14		
6	Rudder trim		15		
7	Brake system icon		16		
8	D/R exponential icon		17		
9	Model		18		

1.1 Language setting

Touch the shortcut icon to enter System Menu and then touch to enter Language. Touch the language that you want to select. A “√” will be shown on the screen after selected.

Then touch to save and exit.

1.2 Skin selection

DEVO-12 offers three skins for your selection.

Touch to enter System Menu and touch to enter Skin.

Touch the skin you desire and then touch to exit.

1.3 Display

Touch the shortcut icon to enter System Menu and then touch the icon

to enter “Display”.

Five items are available to be set. Below are the setting methods for them:

11) LCD brightness: it is possible to increase or decrease the LCD brightness by touching the navigation marks. The power consumption will be increased if the LCD is too bright and will the battery cruise duration will also be shortened.

12) LCD contrast: the contrast can be adjustable by touching the navigation marks. The power consumption will be increased if the contrast is too high and the battery cruise duration will be shortened.

13) Backlight lightness: the backlight lightness can be adjustable by touching the navigation marks. The power consumption will be increased if the backlight lightness is too bright and the battery cruise duration will be shortened.

14) Backlight time out: it is possible to set the duration which LCD stays at highlight in the form of “Always on” and “5 to 60” seconds with an interval of 5 seconds.

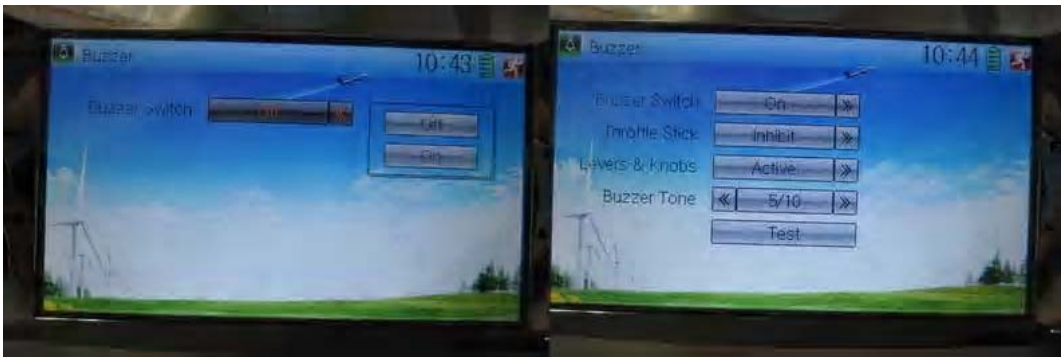
15) Power save time: it can adjust the duration which turns off the backlight light in order to improve the battery cruise time. The setting status contents Always on and 30 grades with an interval of 1 minute.

Touch to exit. After finished.

1.4 Buzzer warning

Touch the icon to enter System Menu and then touch

to enter



9) Buzzer switch: touch the navigation mark at Buzzer Switch and pop up an alternative item: Off and On. If touching On, a drop-down menu is shown as the right upper.

10) Throttle stick: under Buzzer Switch is at the status of On, if Throttle Stick is set as “Active”, it will make a relative response of musical scale when moving the throttle stick. You can judge the position of the throttle stick according to the different musical scales. It is can be set as “Inhibit”.

11) Levers and knobs: under the condition that this item is set as “Active”, DEVO-12 will sound when rotating or moving such levers or knobs as AUX2, AUX3, AUX4, AUX5, AUX6, and AUX7 to their neutral positions. It is can be set as “Inhibit”.

12) Buzzer tone: the tone is composed of 10 grades. You can choose the favorite tone according to your interests. Touch Test to make a listening test.

Touch to exit after finished.

1.5 Date & Time

Touch the icon to enter System Menu and then touch to enter the item of “Date & Time”.

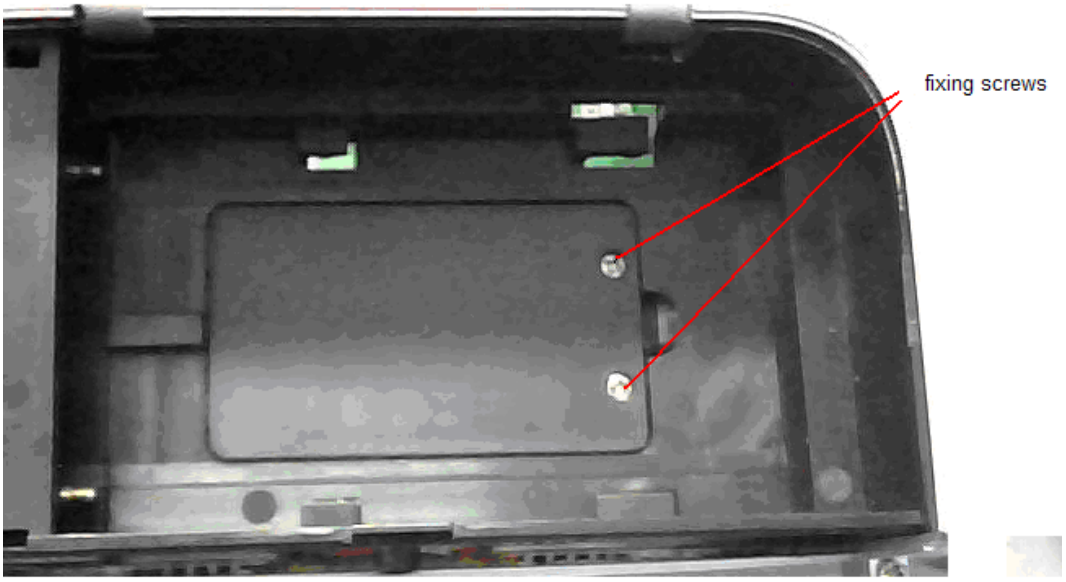
The clock setting is grouped into Year, Month, Day, and Time. Touch the navigation marks, respectively, to make modifications.

Touch to save and exit.

Note: if incorrect turn on time or production time appears, one possibility is that the power supply for the clock is not enough. Replacing a new button cell is a must.

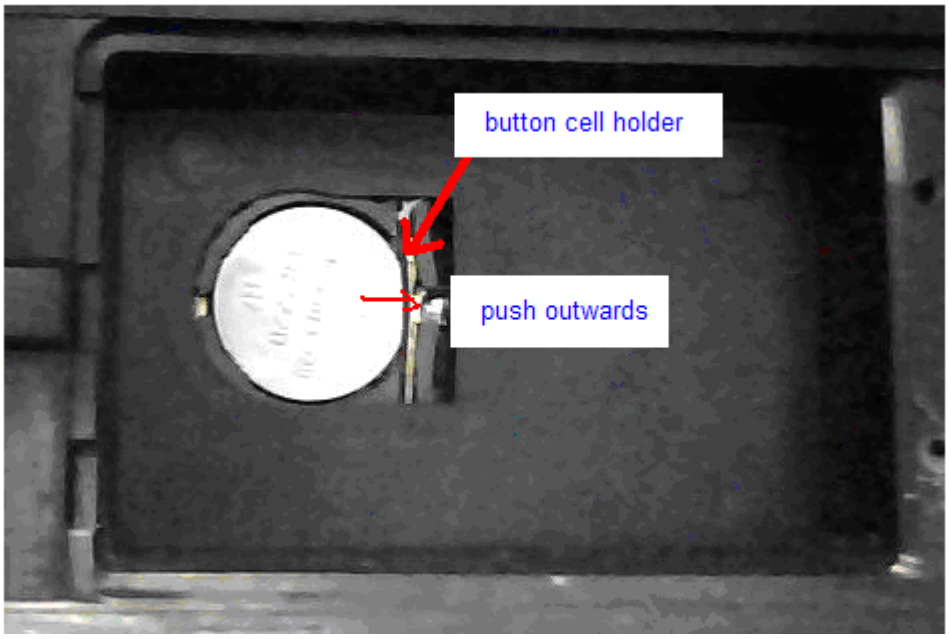
The method for changing button cell:

Turn off the power of your DEVO-12 and take off its battery pack. Use a cross screwdriver to remove the two fixing screws on the fixing board.



English	Your language
Fixing screws	

Push outwards the button cell holder, and the button cell will automatically pop up. Replace the old cell with a new one.



Cell size: CR 1220 3V

English	Your language
Button cell holder	
Push outwards	

1.6 TFT screen calibration

Touch the icon to enter System Menu and then touch to enter TFT Screen Calibration.

Click anywhere on the screen to start calibration with the touch pen, and then follow the indication to calibrate. It will automatically return to System Menu after the calibration is finished.

1.7 Stick mode

Touch the icon to enter System Menu, and then touch the icon to enter Stick Mode.

There are four stick modes from MODE 1 to MODE 4. Select the stick mode you desire and then touch the icon to exit.

1.8 Stick and lever

Touch the icon to enter System Menu and then touch the icon to enter Stick and Lever. There are two items in the interface: Stick Direction and Stick & Lever Calibration.

5) Stick direction: there are four options: Elevator, Aileron, Throttle, and Rudder. Click the item, which you want to reverse, to change the output direction of the

stick. The default setting is Normal.

6) Stick & lever calibration: if variance happened in sticks or levers, it would be calibrated via this option.

Method for calibration:

Click the display item of Start to enter the status of calibration, and Start will be turned into Stop.

2.1) Stick calibration: Clockwise or counter clockwise mechanically move the right stick and left stick from their minimum levels to their maximum levels several times, and then return the sticks to the neutral positions, respectively.

2.2) Lever calibration: mechanically move the levers of AUX2, AUX3, AUX4, and AUX5, respectively, from the minimum level to the maximum level several times, and then return to the neutral positions, respectively.

2.3) Click the display item of Stop. If the calibration is finished, “Calibration success!” will be shown on the lower of the screen. If the calibration is failed, “Calibration error! Please try again!” will be shown instead. It need to be calibrated again.

English	Your language
Normal	
Reverse	
Stick direction	
Stick & lever calibration	
Start	
Stop	
Calibration success	
Calibration error! Please try again!	

2.4) Re-calibration: directly repeat the said steps 2.1 and 2.2 in the calibration failure interface.

Touch the icon to exit.

1.9 Power amplifier

The transmission output power of DEVO-12 is adjustable. It is divided into six grades from small to big. The lower the transmission output power transmits, the nearer the radio range is, and the longer the stand-by time will be. The higher the transmission output power, the farer the radio range, and the shorter the stand-by time. Choose the appropriate transmission output power according to the actual situation.

Touch the icon to enter System Menu and then click to enter the interface of Power Amplifier.

Choose the appropriate output power level and then touch to exit.

1.10 About

Touch the icon to enter System Menu and then touch to get access to the interface of About. You can check the versions of hardware and software.

Click the icon to exit.

2.0 Model menu

Model Menu manages all the model data saved in DEVO-12. It includes Model Select, Model Name, Model Copy, Model Transmit, Model Receive, Model Reset, Type Select, Trim System, Stick Position, Warning, Device Select, Device Output, Swash Type, and Fixed ID.

2.1 Model select

Touch the icon to enter Model Menu and then click the icon to enter Model Select.

Touch the model you desire. The selected model is changed in orange color. Then click the icon to exit.

2.2 Model name

In the menu of Model Name, you can make a desired name for your model for long term storage. Its data can be directly withdrawn in the next flight.

Repeat the step 2.1 Model Select to choose the model you want to name or save. And then touch the icon to exit.

Click the icon to enter System Menu and then click the icon to get the interface of Model Name. The following is the interface:

Click the right blank frame of Name and a gray stripe will be shown in the frame.

Touch the return key to clear up the old name.

English	Your language
Gray stripe	

Touch the soft keyboard to input a new name. it is possible to switch between lowercase and uppercase by clicking the key

.

Then touch to exit.

2.3 Model copy

Touch the icon to enter Model Menu and click to enter Model Copy.

Choose the model you want to be copied as source model. The serial No. and model name of Source Model will be shown in the left side of the interface.

Then touch the model in the right list where you want to locate the source model. The serial No. and name of the model you chose are shown under Dest Model in the lower left of interface as well as an enquire “Are you sure?” is popped up.

Click OK to copy. Otherwise click Cancel. Then the interface will automatically return to Model Menu. Click to save and exit.

2.4 Model wireless copy

The model data between two DEVO-12 equipments can be wirelessly copied via Model Transmit and Model Receive in Model Menu

5) Model transmission

Touch the icon to enter Model Menu and then continue to click the icon to enter Model Transmit.

Choose the source model which will be transmitted. The serial No. and name of the source model will be shown under Select Model in left side of the interface as well as enquiry information “Are you sure?” in the right side.

Click OK for transmission or Cancel for rejection. Enquiry information "Transmitting ……" appears after clicking OK. Touch the icon to exit.

6) Model receiving

Touch the shortcut icon to enter Model Menu and then touch the icon to enter the interface of Model Receive. Enquiry information "Are you sure?" is shown in the center of the interface.

Click Ok for receiving or Cancel for rejection. "Connecting ……" and "Receiving ……" will be shown in series in the interface. The information of "Received" with the model name will be shown in left side after receiving is finished..

Choose the save position in the right name list by touching. Enquiry information “Are you sure?” is shown after clicking the save position. Click OK for save and the current interface will automatically return to Mode Menu. Click Cancel for rejection.

Touch the icon to exit.

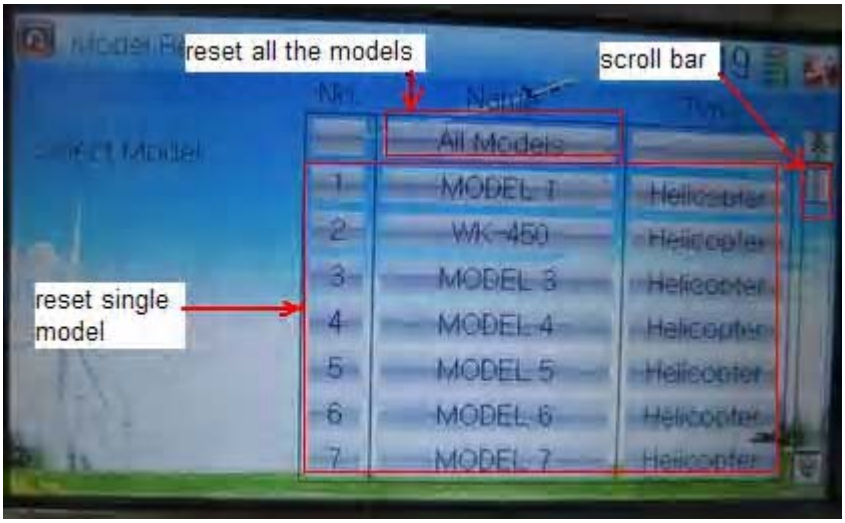
2.5 Model reset

All the model data can be restored to factory settings via Model Reset.

Touch the icon to enter Model Menu and then click

to enter Model Reset.

It is possible to store 60 models data in the model list of DEVO-12 equipment. There are two methods to reset the model data: batch reset and single reset.

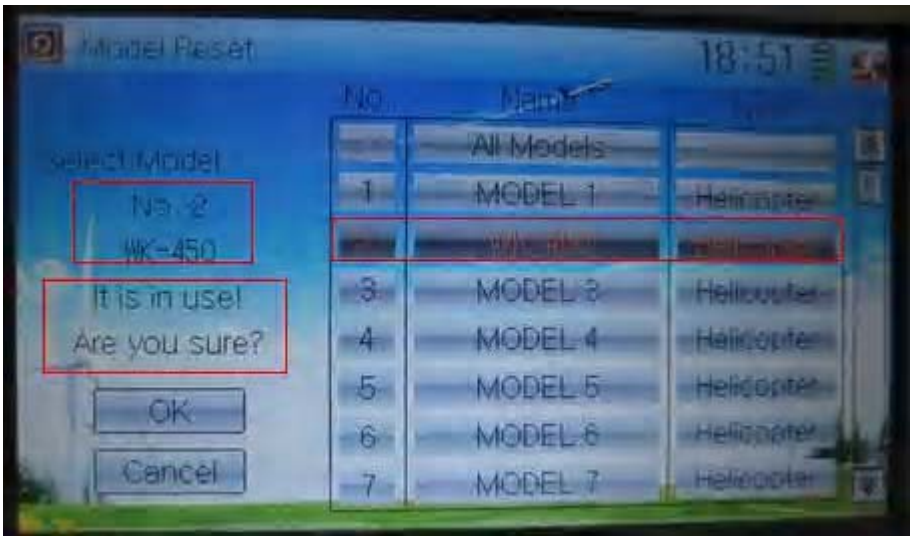


Method for batch reset:

Touch ‘All Models’ in Model Reset interface. Then ‘’All Models” and enquiry “Are you sure?” appear in the left side. Click OK for reset, or Cancel for rejection.

Method for single reset:

Touch the upper or lower navigation mark to move the scroll bar, and then choose the model you wants to restore in the model name list. The selected model’s name and serial No., and enquiry “It is in use! Are you sure?” appear in the left side. Click OK for reset, or Cancel for rejection.



Click the icon to exit.

2.6 Type select

This device offers three model types menu. They are helicopter, airplane, and glider, respectively.

Touch the icon to enter Model Menu and then click to enter Type

Select.

Choose the model type and then touch the icon to exit.

2.7 Trim system

Trim System is able to finely tune the following six items, respectively: elevator, aileron, rudder, throttle, left trim, and right trim. The trim range is covered from 1 to 20 grades (factory default is set at 4). It is convenient to subtly modify the pitch by adjusting the trim range.

Touch the icon to enter Model Menu and then click to enter Trim System.

Touch the corresponding navigation mark to change the trim value. The bigger the trim value is, the bigger the trim range is.

For elevator, aileron, and rudder, there are two options: Normal and Limited. “Normal”

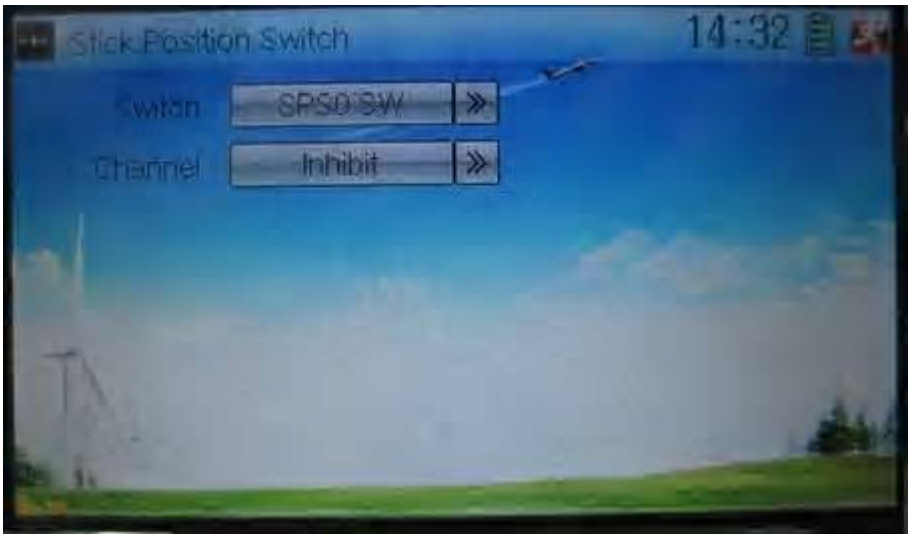
means the trim is always working although the corresponding stick stays anywhere. “Limited” means the trim is out of working when the corresponding stick is at maximum position.

2.8 Stick position

The stick can be used as a switch. The turn-on or turn-off position at which the stick stays can also be set up.

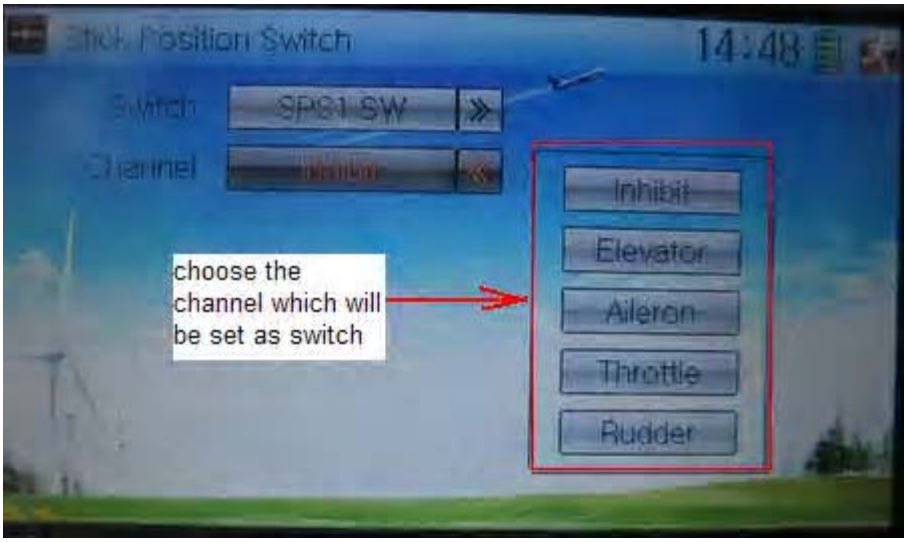
Method for setting:

Touch the icon to enter Model Menu and then click to enter Stick Position Switch.



Click the navigation mark of Switch. It pops up a drop-down menu: SPS0, SPS1, SPS2, and SPS3. Choose the switch you want to define.

Then touch the navigation mark of Channel. It expands into five items: Inhibit Elevator, Aileron, Throttle, and Rudder. The factory default setting is Inhibit. Choose the stick you want to set as “switch”.



English	Your language
Stick position switch	
Switch	
Channel	
Inhibit	
Elevator	
Aileron	
Throttle	
Rudder	
Choose the channel which will be set as switch.	

At the same time, “Position” and the status of turn-on or turn-off appear under the item Channel. The current status of turn-on or turn-off will be shown on the right top corner.

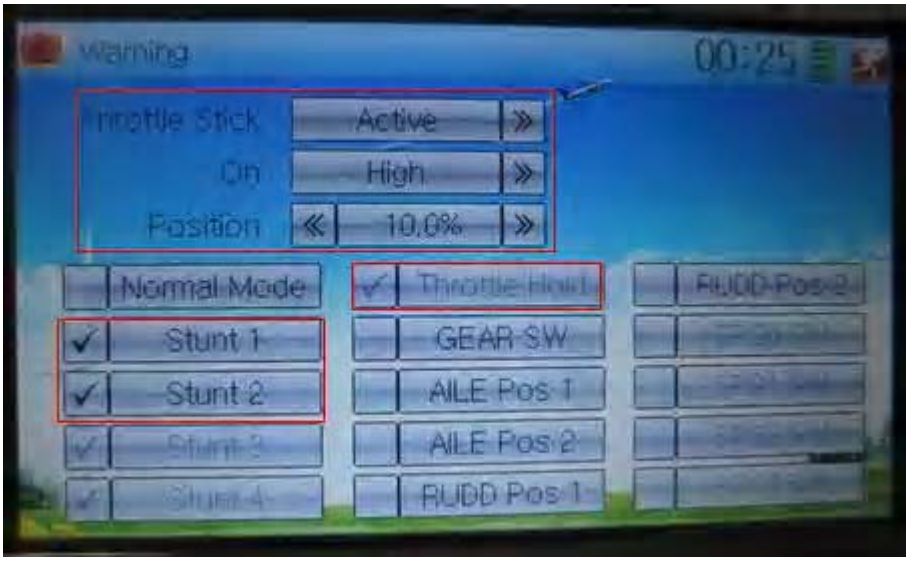
English	Your language
Switch status	
“Position” and switch status appear under “Channel”	

Click the icon to exit after the setting finished.

2.9 Warning

This function can set the warning for unsafety of which stick, switch status, or flight mode stay at the position while turning on the device, or is used as start-up warning in special purpose.

The factory default is set Throttle Stick as Active, High direction at 10.0% Position, set flight mode as Stunt, and set Throttle Hold at on position.



Touch the icon to enter Model Menu and then click to enter the interface of Warning.

Setting method:

5) setting Throttle stick as warning

Click the navigation mark of Throttle Stick in the interface Warning. It expands into Inhibit and Active. If clicking Inhibit, the dropdown menu is retracted. If clicking Active, it will expand into On and Position. It can set the throttle stick is at high position or low position when startup is warning. Set the warning level by changing the percentage in Position, whose setting value is ranged from 0.0 to 100.0%.

Take the right-hand throttle as an example. Position is 0.0% when the throttle stick is at the lowest position; Position is 100.0% when the throttle stick is at the highest position. The factory default setting is Throttle Stick is Active, Position in High direction at 10.0%.

6) setting other items

Other flight modes and switches warning will be shown in the lower-middle part of the interface after the setting for throttle stick is finished. Click the corresponding items you want to use. The factory default setting includes Stunt 1, Stunt 2, Stunt 3, Stunt 4, and Throttle Hold.

Click to exit.

2.10 Device select

This setting can help you configure various functional switches, or adjust levers. It includes Flight Mode Main Switch, Flight Mode Extra Switch, Stunt Trim Select, Throttle Hold Switch, Hovering Pitch, and Hovering Throttle.

Setting method:

Touch the icon to enter Model Menu, and then click the icon to enter Device Select.

13) Flight Mode Main Switch

Touch the navigation mark of Flight Mode Main Switch to expand into a dropdown menu. Choose the mode switch you desire. The factory default setting is FMOD SW.

14) Flight Mode Extra Switch

Refer to “1) Flight Mode Main Switch”.

15) Stunt Trim Select

There are two modes: Common and Flight Mode. In Common mode all the trim values to which various sticks are relative put equally effects on all the flight modes.

In Flight Mode, the trim values to which each stick is relative put, respectively, effect on the corresponding stick. The factory default is Common.

16) Throttle Hold Switch

Refer to “1) Flight Mode Main Switch”.

17) Hovering Pitch

Refer to “1) Flight Mode Main Switch”.

18) Hovering Throttle

Refer to “1) Flight Mode Main Switch”.

2.11 Device Output

Device output is composed of eight items. It can set up output switches and select the usage of levers, respectively. It can also activate, inhibit or use other functions.

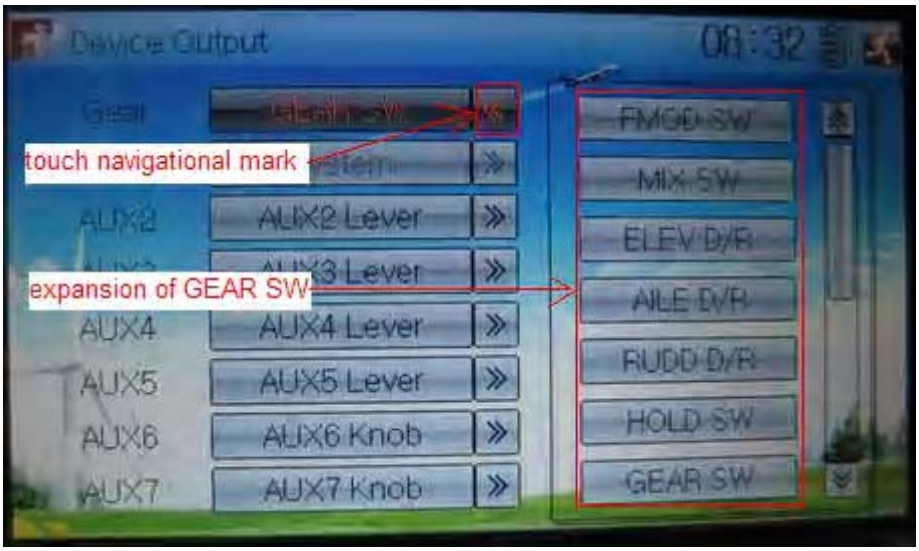
Setting method:

Touch the icon to enter Model Menu and then click to enter Device Output.

There are eight items to be adjustable. They are Gear, Pitch, AUX2, AUX3, AUX4, AUX5, AUX6, and AUX7. The setting methods for them are shown below:

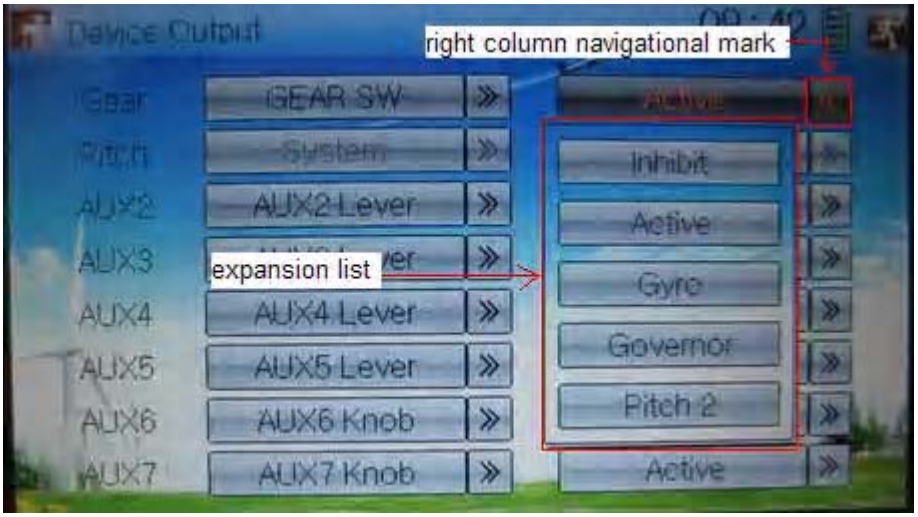
8) Gear

Touch the left column navigation mark of Gear and pop up an expansion including FMOD SW, MIX SW, ELEV D/R, AILE D/R, RUDD D/R, HOLD D/R, and GERA SW. Touch the desired item. The default setting is GEAR SW.



English	Your language
Touch navigation mark	
Expansion of GEAR SW	

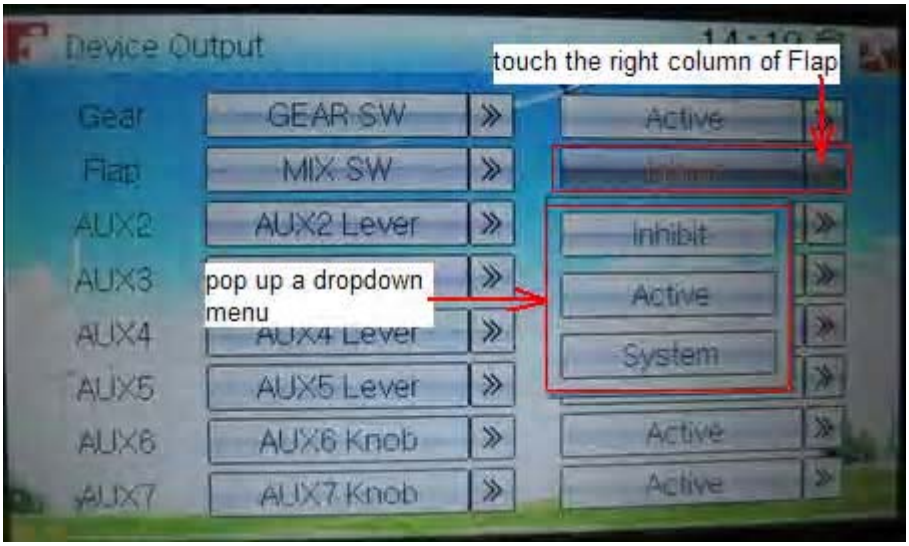
Touch the right column navigation mark of Gear. Pop up an expansion including Inhibit, Active, Gyro, Governor, and Pitch 2. Touch the desired item. The default setting is Active.



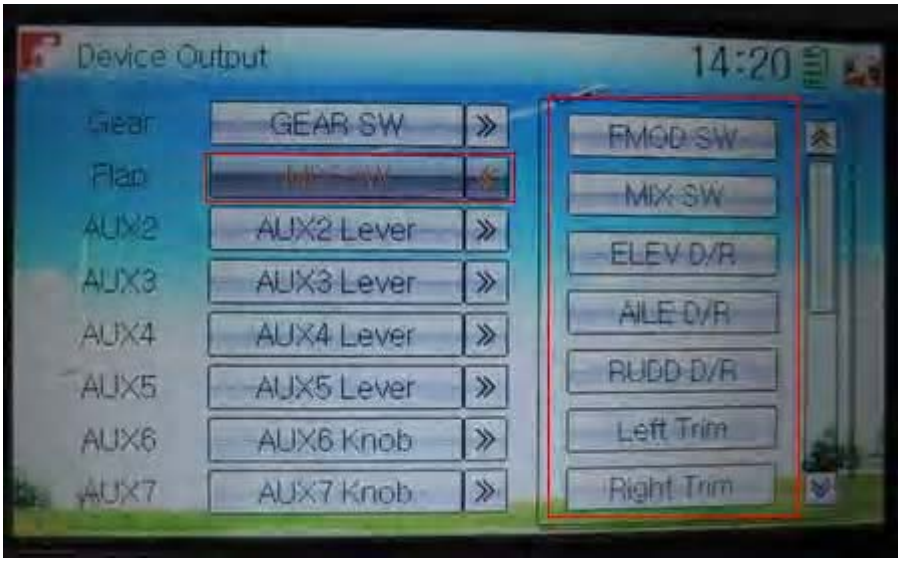
English	Your language
Right column navigation mark	
Expansion list	

8) Flap

There will show the switch option only after the right column of Flap is selected. Touch the right column of Flap and expand a dropdown menu including Inhibit, Active, and System.



2.1) If choose Inhibit or Active, the expansion menu will include these items: FMOD SW, MIX SW, ELEV D/R, AILE D/R, RUDD D/R, Left Trim, and Right Trim. The default setting is Inhibit. Select the desired item as the flap switch.



2.2) If choose System, it is impossible to set in Flap.

9) AUX 2

Touch the left column navigation mark of AUX 2. Pop up an expansion list including SPS0 SW, SPS1 SW, SPS2 SW, SPS3 SW, Left Trim, Right Trim, and AUX2 Lever. Touch the desired item. The default setting is AUX2 Lever.

Touch the right column navigation mark of AUX 2, and expands a list including Inhibit, Active, Gyro, Governor, and Pitch 2. Click the desired item. The default setting is Active.

Then continue to set other items.

10) AUX 3

Touch the left column navigation mark of AUX 3, and expands a list including AUX3 Lever, AUX4 Lever, AUX5 Lever, AUX6 Knob, AXU7 Knob. Touch the desired item. The factory default setting is AUX3 Lever.

Click the right column navigation mark of AUX3, and see a expansion list including Inhibit, Active, Gyro, Governor, and Pitch 2. Choose the desired item. The factory fault setting is Active. Then continue to set up other items.

11) AUX 4

Refer to “4) AUX 4”.

12) AUX 5

Refer to “4) AUX 4”.

13) AXU6

Refer to “4) AUX 4”.

Click the icon to exit.

2.12 Wing type

The Wing Type includes V-Tail, Tip Ailerons, Dual Spoilers.

Wing type selection:

Touch the icon to enter Model Menu, and then click the icon to enter the interface of Wing Type.

1) V-Tail setting

Touch the navigation mark of –Tail, and expand a sub menu including two options of Inhibit and Active. Select the desired wing type. The default setting is Inhibit.

2) Tip Ailerons setting

The setting is same as the above.

3) Dual Spoilers setting

The setting is same as the above.

4) Dual channels setting

It is possible to set elevator, rudder, and flap in Dual Channels, and is of two-channel output function. The AUX channel, which will be used as dual channels setting in Device Output at Model Menu, should previously set as Inhibit (Refer to “2.11 Device Output”).

Setting method:

4.1) channel setting:

Touch navigation mark of Channel and expand a popup including Elevator, Rudder, and Flap. Click the desired item.

4.2) Mate setting

Touch the navigation mark of Mate and expand a popup with Inhibit and the items shown in Device Output. Select the desired item. Note: the selected channels are shown in grey and are not selectable.

4.3) Trim setting

Touch the navigation mark of Trim and expand a popup including Inhibit, Left Trim, Right Trim, AUX2 Lever, AUX3 Lever, AUX4 Lever, AUX5 Lever, AUX6 Knob, and AUX7 Knob. Select the item you want to use.

Click the icon to exit.

2.13 Fixed ID

This setting will bind DEVO-12 and its receiver in a unique corresponding relationship. It will greatly speed up the time of automatic binding when DEVO-12 powered on.

3) 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 in the main interface, and then enter Fixed ID by touching the icon in Model Menu.

English	Your language
Navigation mark	

Touch the navigation 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.

English	Your language
Touch “On”	
A series of random digits is shown here	

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

English	Your language
Mini soft keyboard	

The new ID digits can be modified by touching the mini soft keyboard. Touch Match after the new ID is already set. An enquiry interface of “Are you sure?” pop up. “ID Code Match … …” will be shown after touching OK.

English	Your language
ID Code Setting	
ID Code	
Fixed ID	
Are you sure?	
Cancelled	
ID Code Match	

4) 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.

DEVO-12 also needs to make relative cancellation and reversion after the fixed ID in receiver is cleared out.

In the main interface touch the icon to enter Model Menu and then touch to enter Fixed ID. Touch ID Code Setting to expand the navigation mark into two statues On and Off. Touch Off. Then touch to exit.

3.0 Function menu

Function Menu is used to make personalizedly fine adjustment to the selected models. It includes Reverse Switch, Travel Adjust, Sub Trim, Dual Rate and Exponential, Motor Hold, Flaperon Mix, Camber System, Differential, Balance, Gyro Sensor, Rudder to Spoiler Mix, Aileron to Rudder Mix, Elevator to Flap Mix, Aileron to Flap/ Wingtip Mix, Flap Rate, Brake System, Program Mix, Monitor, Fail Safe, Trainer, and Timer.

3.1 Reverse switch

Touch the shortcut icon to enter Function Menu, and then click the icon to enter the interface of Reverse Switch.

There show all the reverse switches' statuses of travel channels. Touch the desired item to reverse its current status. The status includes two types: Normal and Reverse. The default setting is Normal.

Touch the icon to exit after finished.

3.2 Travel adjust

Touch the icon to enter Function Menu and then click the icon to enter the interface of Servo Adjust.

The interface contents two pages to show the current travel status of all the twelve channels. Touch the navigation mark of each item to increase or decrease corresponding travel adjustment amount. The adjustable range is 0.0-150.0%. The default setting is 100.0%.

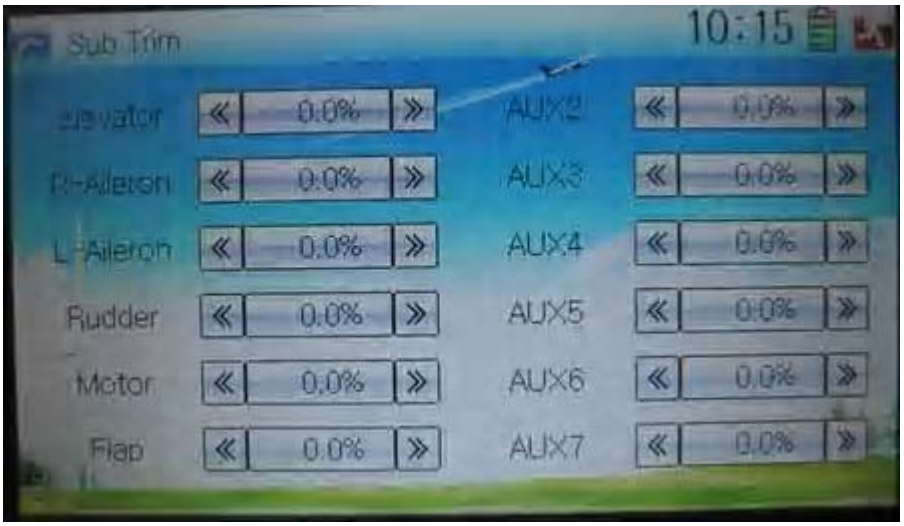
Click the icon to exit after finished.

3.3 Sub trim

Sub Trim is used to make parallel movement of servos. It is recommended to adjust the servo bell crank if the servo is far away from its neutral point. The excessive usage of sub trim may damage the servo.

Setting method:

Touch the icon to enter Function Menu and then click the icon to enter the interface of Sub Trim.



Touch the navigation mark of the desired item to adjust the amount for rectifying the servo's neutral point. The default neutral point is set at 0.0%. The adjustment range of each channel is shown as below:

English	Your language	English	Your language
Channel name		Adjustment range	
Right elevator		D62.5%-U62.5%	
Right aileron 1		R62.5%-L62.5%	
Throttle		L62.5%-H62.5%	
Rudder		R62.5%-L62.5%	
Left aileron 1		R62.5%- L62.5%	
Flap		D62.5%- U62.5%	
Right aileron 2		R62.5%- L62.5%	
Left aileron 2		R62.5%- L62.5%	
AUX4		-62.5%- +62.5%	
AUX5		-62.5%- +62.5%	

Left elevator		D62.5%- U62.5%	
AUX7		-62.5%- +62.5%	

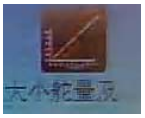
Note: the model names shown will be different with the selected channels different.

Click the icon to exit after finished.

3.4 Dual rate and exponential

It is possible to use D/R switch to control over the dual rate of elevator, aileron, and rudder after the function of Dual Rate and Exponential is set up. The setting range is 0-125%. Under the help with exponential curve adjustment, it is not only manually but also automatically to set up various parameters which are suitable for yourself.

Setting method:

Touch the icon to enter Function Menu and then click the icon  to enter the interface of Dual Rate and Exponential.

1) Channel selection

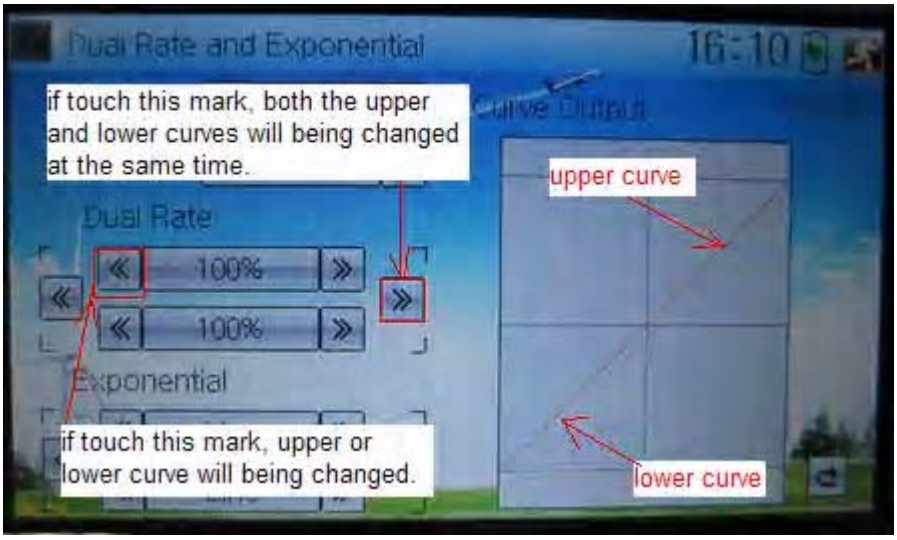
Touch the navigation mark of Channel and expand a selectable list including Elevator, Aileron, and Rudder. Click the desired channel which will be shown in Channel.

2) Position selection

Touch the navigation mark of Position and expand a selectable list including Pos 0, Pos 1, Pos 2, Pos 3, Pos 4, and Pos 5. Click the desired item which will be shown in Position. There will only show Pos 0, Pos 1, and Pos 2 in manual setting.

3) Dual Rate adjustment

It is possible to modify the value by touching the navigation mark of Dual Rate.



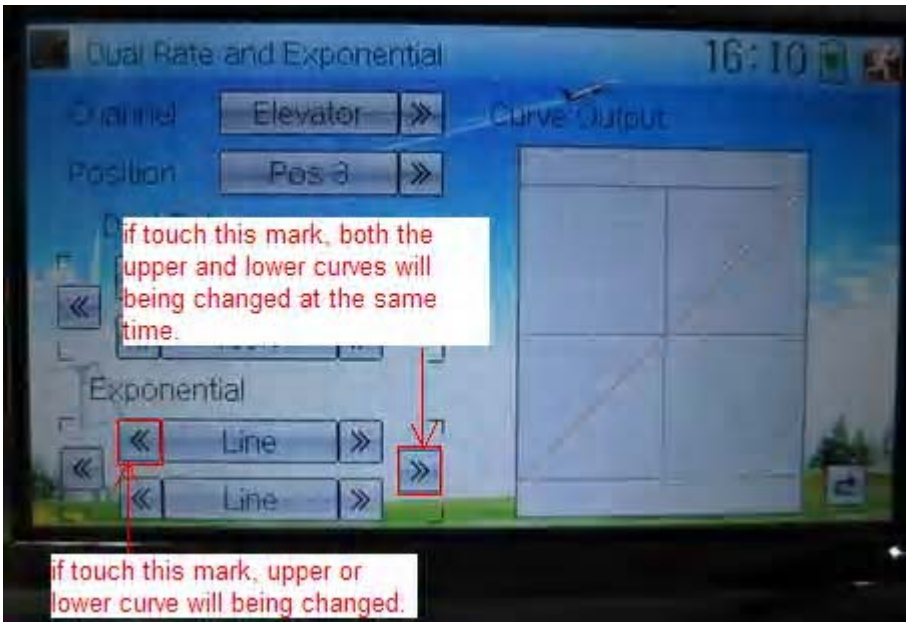
If touching the navigation mark for just one item to amend the dual rate value, the dual rate of the corresponding servo will be changed in one direction, while the curve will being changed in one direction at the right graph.

If touching the navigation mark for both items to amend the dual rate value, the dual rate of the corresponding servo will be changed while the curve will being changed at the same time, shown at the right graph. The default setting is 100%.

English	**Your language**
Upper curve	
Lower curve	
If touch this mark, both the upper and lower curves will being changed at the same time.	
If touch this mark, upper or lower curve will being changed.	

4) Exponential adjustment

It is possible to adjust the exponential output value of the servo at that point , which is set up in step “2) Position selection”, by touching the navigation mark of Exponential.



If touching the navigation mark for just one item to amend the dual rate value, the dual rate of the corresponding servo will be changed in one direction, while the curve will being changed in one direction at the right graph.

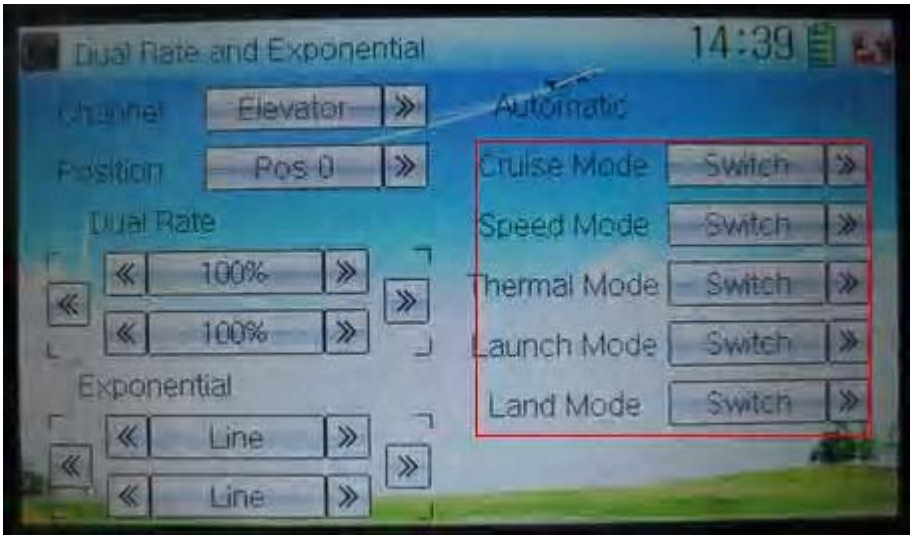
If touching the navigation mark for both items to amend the dual rate value, the dual rate of the corresponding servo will be changed while the curve will being changed at the same time, shown at the right graph. The default setting is Line.

Then touch this mark to return to the interface of Dual Rate and Exponential.

5) Automatic setting

Under working with Flight Mode, it is possible to switch the dual rate and exponential, which are set in above “3) Dual Rate adjustment” and “4) Exponential adjustment”, respectively. It includes Cruise Mode, Speed Mode, Thermal Mode, Launch Mode, and Land Mode.

Note: if want to use this function, it is necessary to previously set Flight Mode Speed Switch and Flight Mode Launch Switch in Device Select at Model Menu as the corresponding switches. Refer to “2.10 Device Select”.



Touch the navigation mark of the desired item and expand a popup with the selectable positions. Select the position you desire. And then this switch is only controlled by the corresponding D/R lever.

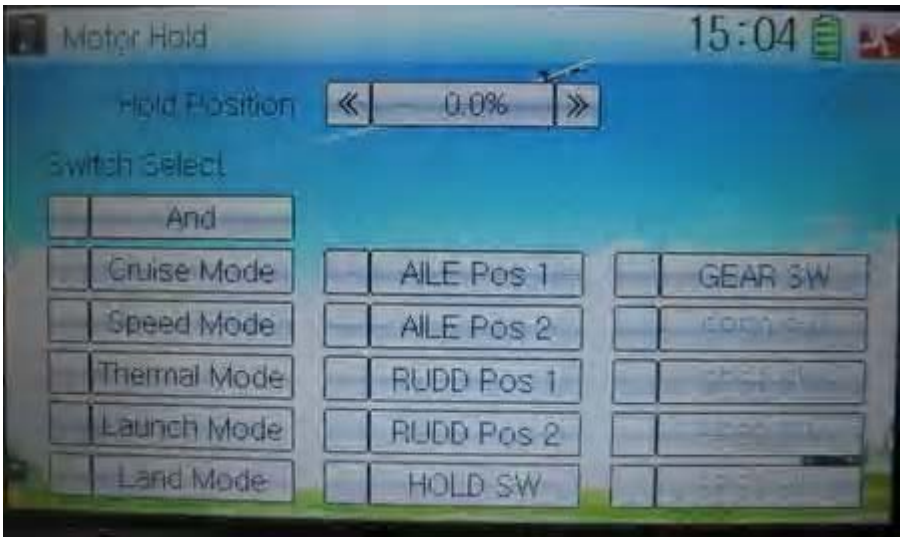
Click the icon to exit.

3.5 Motor hold

The motor hold can be switched after the function is used. The setting range of motor hold is from -10% to 100%. This function should be previously set the item Motor in Device Output at Model Menu, which is used as Spoiler Stick and is activated. Refer to “2.11 Device Output”.

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Motor Hold.



1) Hold Position setting

Touch the left or right navigation mark of Hold Position to decrease or increase, respectively, the amount. The adjustable range is from -10.0% to 100.0%. the default setting is 0.0%.

2) Switch select

Touch the switch you want and a "√" will be shown in its left. If two or more switches are chosen, the item And should be selected.

Touch the icon to exit.

3.6 Flaperon mix

This function is used to mix Aileron to Flaperon, or mix Elevator to Flaperon. The mix amount can be independently set in each flight mode.

The output rate of flap in each flight mode should be previously set

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Flaperon Mix.

1) Flap Lever Offset setting

This function can be used to set the neutral point of Flaperon servos.

Touch the left or right navigation mark of Flap Lever Offset to decrease or increase, respectively, amount. The adjustable range is ±100%. It is possible to change the offset direction by changing the sign before the amount.

2) Flight Mode setting

Flight Mode at Device Select should be previously chosen before using this function (refer to “2.10 Device Select”).

Touch the navigation mark of Flight Mode to select the desired item in the following popup list.

2.1) Flap to Flaperon

Touch the navigation mark of Up or Down to change the Flaperon mix value when moving the Flaperon stick. The bigger the value is, the bigger mix is. The adjustable mix is ranged from -125% to + 125%. It is possible to alter the Flaperon mix direction by changing the sign before the value.

2.2) Flap to Elevator

Touch the navigation mark of UP or Down to change the elevator mix value when moving the Flaperon stick. The bigger the value is, the bigger the mix is. The adjustable mix is ranged from -125% to + 125%. It is possible to alter the elevator mix direction by changing the sign before the value.

Touch the icon to exit.

3.7 Camber system

This function can change the flap angle and aileron angle which goes through central line of the main wing, and then change the features of main wing. It can be independently set in each flight mode.

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Camber System.

1) Flight Mode setting

The flight mode should be previously activated in “Device Select” before using this function (refer to “2.10 Device Select”).

Touch the navigation mark of Flight Mode and expand a popup, where you can select the desired flight mode.

2) L- or R-Aileron setting

Touch the navigation mark of L- or R-Aileron to change the position of L-aileron or R-aileron with a range of ± 100%. It is possible to alter the direction of L- or R-aileron via changing the character of “R” or “L” before the amount..

3) L- or R-Flap setting

The flap dual channels should be previously set in Wing Type (refer to “2.12 Wing Type”).

Touch the navigation mark of L- or R-Flap to change the position of L- or R- Flap with a range of ± 100%. It is possible to alter the direction of L- or R-aileron via changing the character of “R” or “L” before the amount.

4) L- or R-Tip Aileron setting

The tip aileron should be previously set at Wing Type (refer to “2.12 Wing Type”).

Touch the navigation mark of L- or R-Aileron to change the position of L- or R-aileron with a range of ± 100%. It is possible to alter the direction of L- or R-aileron via changing the character of “R” or “L” before the amount.

Click the icon to exit.

3.8 Differential

1) Flight mode setting

The flight mode should be previously set in Device Select (refer to “2.10 Device Select”).

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Differential.

1.1) Aileron setting

It is possible to decrease the vibration to the head from reverse direction in operating aileron.

Touch the left or right navigation mark of Aileron to decrease or increase, respectively, the value with a range of ± 100%. The bigger the value is, the bigger the differential is.

1.2) Rudder setting

In this function, the left or right rudder in V Tail will produce differential gearshift. V-Tail should be previously set in Wing Type at Model Menu (refer to “2.12 Wing Type”).

Touch the left or right navigation mark of Rudder to decrease or increase, respectively, the value with a range of ± 100%. The bigger the value is, the bigger the differential is.

1.3) Flap setting

Flap Dual channels should be previously set at Wing Type in Model Menu (refer to “2.12 Wing Type”).

Touch the left or right navigation mark of Flap to decrease or increase, respectively, the value with a range of ± 100%. The bigger the value is, the bigger the differential is.

1.4) Tip Aileron setting

Tip Aileron should be previously set at Tip Aileron in Model Menu (refer to “2.12 Wing Type”).

Touch the left or right navigation mark of Tip Aileron to decrease or increase, respectively, the value with a range of ± 100%. The bigger the value is, the bigger the differential is.

2) Brake differential

If co-working with spoiler stick, the brake differential function can counteract the differential.

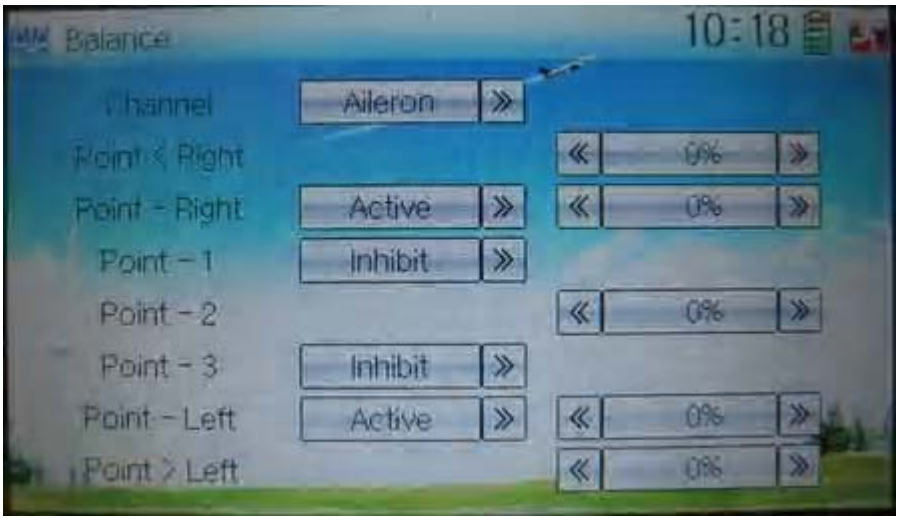
Touch the left or right navigation mark of Brake Differential to decrease or increase, respectively, the value with a range from 0% to 100%. The bigger the value is, the bigger the differential is.

Click the icon to exit.

3.9 Balance

This function can adjust the two-servo parameters, which are simultaneously used in dual output channels, but “Dual Channels” should be previously activated at Wing Type in Model Menu (refer to “2.12 Wing Type”).

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Balance.



1) Channel selection

Touch the navigation mark of Channel and expand a sub menu and select the desired item.

2) Point setting

Touch the navigation mark of the point which you want to adjust, and expand a sub menu with Inhibit and Active. Click Active for adjusting, and then touch its navigation mark to change the value with a range of ± 100%. The default setting is 0%. The minus value means the amending direction is downward, and the plus value means upward.

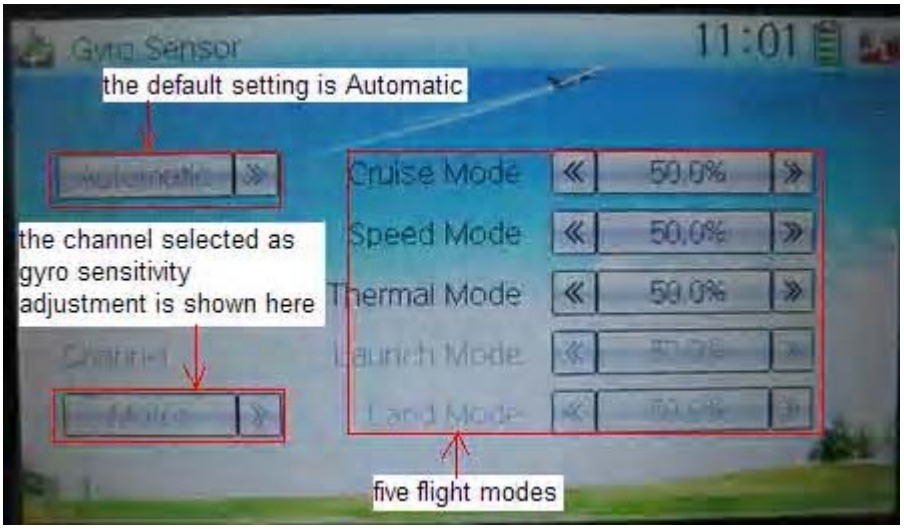
Click the icon to exit.

3.10 Gyro sensor

This function offers the gain adjustment for gyro sensor. It is possible to be automatically switched among various gains through flight mode. The flight mode should be previously set at Device Select in Model Menu (refer to “2.10 Device Select”), and the gyro output should also be simultaneously set at Output (refer to “2.11 Device Output”).

Setting method:

Touch the icon to enter Function Menu, and then touch the icon to enter the interface of Gyro Sensor.



English	Your language
The default setting is Automatic	
The channel selected as gyro sensitivity adjustment is shown here	
Five flight modes	

Setting method:

Touch the left or right navigation of the flight mode you want to adjust to decrease or increase, respectively, the value with a range of 0.0% - 100.0%. The bigger the value is, the bigger the gyro sensitivity is. The default setting is 50.0%. If a gyro with NOR and AVCS is used, NOR will work when the value is less than 50.0%, and AVCS will work when the value is more than 50.0%.

Touch the icon to exit.

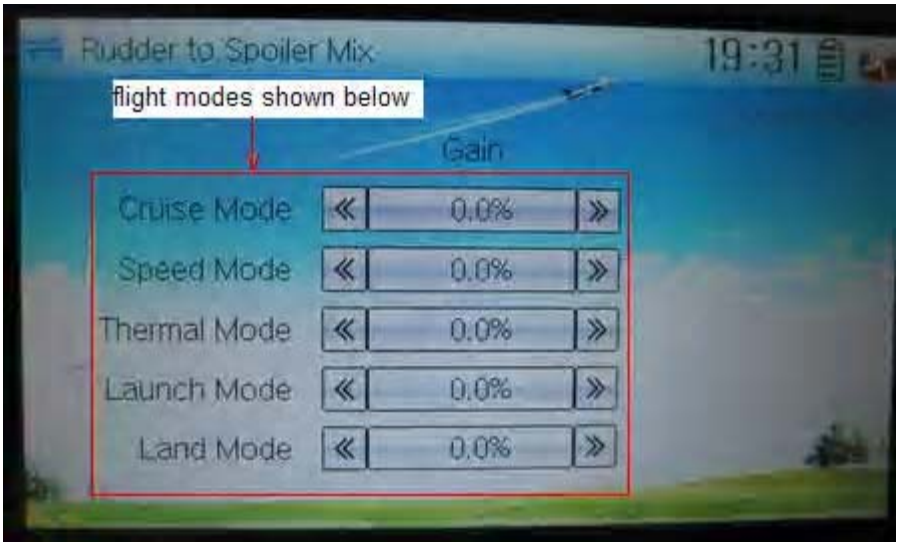
3.11 Rudder to spoiler mix

When this function is activated, the spoiler can be used as rudder in the models without rudder and can also be mixed. The mix gain can be independently set in each flight mode. The flight mode should be previously set at Device Select in Model Menu (refer to “2.11 Device Select”), and “Dual Spoilers” should also be activated at Wing Type (refer to “2.12 Wing Type”).

Setting method:

Touch the icon to enter Function Menu, and then click the icon

to enter the interface of Rudder to Spoiler Mix.



Touch the left or right navigation mark of the flight mode you desired to decrease or increase, respectively, the gain with a range of 0.0 – 100.0%. the default setting is 0.0%.

Touch the icon to exit.

3.12 Aileron to rudder mix

This function aims at mixing the rudder when operating the aileron. The mix value can be respectively set in each flight mode. But the flight mode should be previously set at Device Select in Model Menu (refer to “2.10 Device Select”).

Setting method:

Touch the icon to enter Function Menu, and then click the icon

to enter the interface of Aileron to Rudder Mix.

1) Elevator stick setting

This function is that this point will become the cut-off point whether to mix if the elevator stick position is set at one point. When the elevator stick is moved down from this point, the mix will be cancelled; while the elevator stick is moved up from this point, the mix will be activated.

Touch the left or right navigation mark of Elevator Stick to decrease or increase, respectively, the value with a range of D1 – 100%. When the elevator stick is moved down from this value, the mix will be cancelled; while the elevator stick is moved up from this value, the mix will be activated. The default setting is Inhibit.

2) Rudder stick setting

The setting is same as above. The adjustable range is L/R 1 – L/R 100%.

3) Mix value setting

There are total five flight modes. The flight mode should be previously set at Device Select in Mode Menu (refer to “2.10 Device Select”).

Touch the navigation mark of Left to change the leftward mix value of aileron to rudder. It is possible to alter the mix direction via changing the sign before the value. The adjustable mix is ± 125%.

Touch the navigation mark of Right to change the rightward mix value of aileron to rudder. It is possible to alter the mix direction via changing the sign before the value. The adjustable mix is ± 125%.

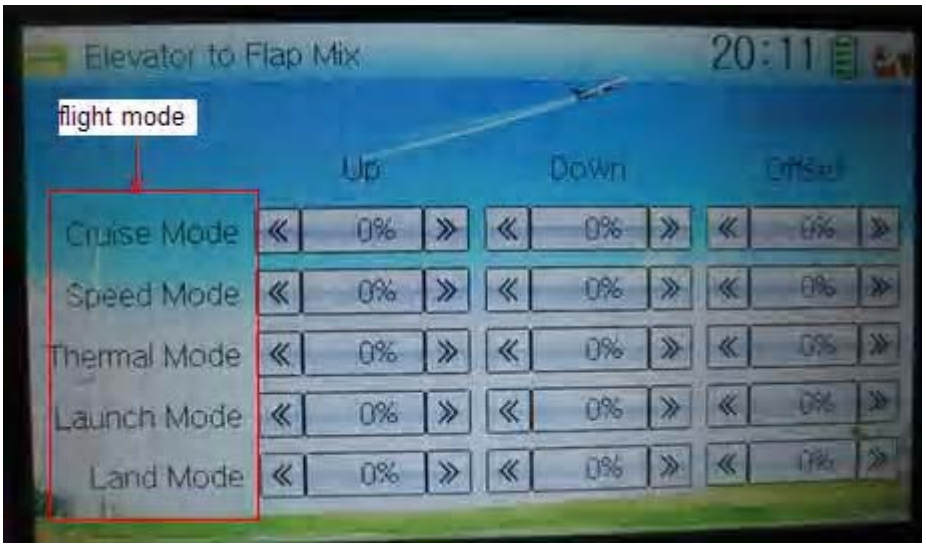
Click the icon to exit.

3.13 Elevator to flap mix

This function aims at mixing flap when operating elevator stick. It can be respectively set in each flight mode, which should be previously set at Device Select in Mode Menu (refer to “2.10 Device Select”).

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Elevator to Flap Mix.



Touch the navigation mark of Up in the flight mode you desire to change the mix value of elevator to flap when moving the elevator stick upwards. It is possible to alter the mix direction via changing the sign before the value. The adjustable mix value is ± 125%.

Touch the navigation mark of Down in the flight mode you desire to change the mix value of elevator to flap when moving the elevator stick downwards. It is possible to alter the mix direction via changing the sign before the value. The adjustable mix value is ± 125%.

Touch the navigation mark of Offset, which is corresponding to the flight mode, to amend the central point of flap. The bigger the value is, the bigger the offset will be. It is possible to alter the offset direction via changing the sign before the value. the adjustable offset range is ± 100%.

Click the icon to exit.

3.14 Aileron to flap mix

This function aims at mixing flap when operating aileron stick. It can be respectively set in each flight mode. But the flight mode should be previously set at Device Select in Mode Menu (refer to “2.10 Device Select”), and the flap dual channels should also be previously activated at Wing Type in Mode Menu (refer to “2.12 Wing Type”).

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Aileron to Flap Mix.

There are total five flight modes. The corresponding flight mode should be previously set at Device Select in Mode Menu (refer to “2.10 Device Select”).

Touch the navigation mark of Left in the flight mode you desire to change the flap mix value when moving the aileron stick leftward. It is possible to alter the mix direction via changing the sign before the value. The adjustable mix value is ± 125%.

Touch the navigation mark of Right in the flight mode you desire to change the flap mix value when moving the aileron stick rightward. It is possible to alter the mix direction via changing the sign before the value. The adjustable mix value is ± 125%.

Click the icon to exit.

3.15 Flap to tip-aileron mix

The function aims at mixing tip aileron when operating flap. It can be respectively set in each flight mode. But the flight mode should be previously set at Device Select in Mode Menu (refer to “2.10 Device Select”), and the tip aileron should also be activated at Wing Type (refer to “2.12 Wing Type”).

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Flap to Tip Aileron Mix.

There are total five flight modes. The corresponding flight mode should be previously set at Device Select in Mode Menu (refer to “2.10 Device Select”).

Touch the navigation mark of Left in the flight mode you desire to change the flap mix value when moving the aileron stick leftward. It is possible to alter the mix direction via changing the sign before the value. The adjustable mix value is ± 125%. The default setting is 100%.

Touch the navigation mark of Right in the flight mode you desire to change the flap mix value when moving the aileron stick rightward. It is possible to alter the mix direction via changing the sign before the value. The adjustable mix value is ± 125%. The default setting is 100%.

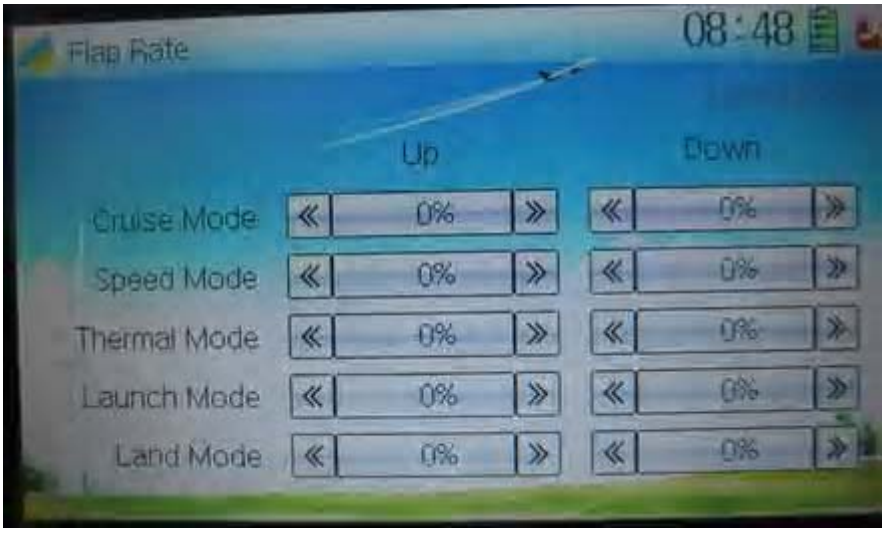
Click the icon to exit.

3.16 Flap rate

This function can set the flap rate in all the flight modes. 0% is set as the neutral center of flap angle. It is possible to set the flap rates of both up and down directions. There are total five flight modes, each one of which should be previously set at Device Select in Model Menu (refer to “2.10 Device Select”).

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Flap Rate.



Touch the navigation mark of Up to change the flap rate when flap moving upward. It is possible to alter the direction by changing the sign before the value. The adjustable range is 125%, and the default setting is 0%.

Touch the navigation mark of Down to change the flap rate when flap moving downward. It is possible to alter the direction by changing the sign before the value. The adjustable range is 125%, and the default setting is 0%.

Click the icon to exit.

3.17 Brake system

Through the spoiler stick operation, all the actions caused by mobile wings in main wings will be turned into the mixes which aim at brake. It is can switched between Pos 0 and Pos 1 via setting the item Switch.

Setting method:

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Brake System.

1) Spoiler stick setting

When the spoiler stick is set at one certain point, this point will become the cut-off point whether to brake. The mixing will be working when the spoiler stick is being moved to this point from down to up.

The spoiler stick position will be set through touching the navigation mark of Spoiler to change the value. The adjustable range is 0.0-100.0%. The default value is 100.0%.

2) Mix value setting

Mix value setting for brake to the corresponding item is shown as below:

2.1) Brake to Spoiler

The brake mix at Pos 0 will be altered through touching the navigation mark of Pos 0 at Spoiler to change the value. The adjustable value is 0.0-100%, and the default setting is 100.0%.

The brake mix at Pos 1 will be altered through touching the navigation mark of Pos 0 at Spoiler to change the value. The adjustable value is 0.0-100%, and the default setting is 100.0%.

2.2) Brake to Flaperon

The setting is same as above. It is possible to change the mix direction via altering the sign before the value. The adjustable value is ± 125%, and the default setting is 0%.

2.3) Brake to Elevator

The setting is same as above.

2.4) Brake to Flap

The setting is as above.

2.5) Brake to Tip aileron

The setting is same as above.

3) Switch setting

Touch the navigation mark of Switch and expand a selectable list shown as below. Touch the desired switch item to make “0” turn into “1”. If two or more switches are chosen, the item And should be selected.

Touch the icon to exit.

3.18 Program mix

There are total eight sets of Program Mix. It is possible to freely set the channels and amounts which you want to select and amend, respectively.

Setting method:

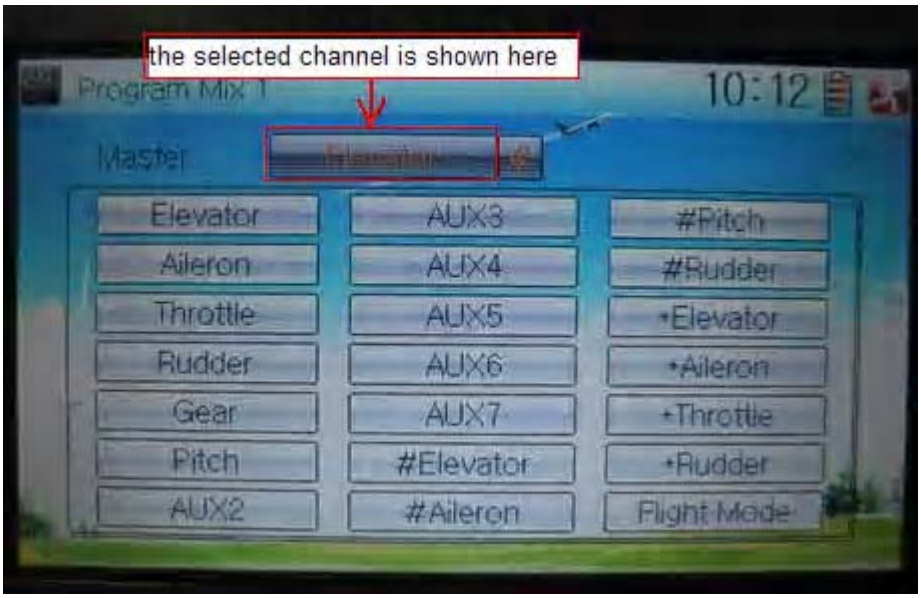
Touch the icon to enter Function Menu, and then click to enter the interface of Program Mix. Eight Program Mix names and their current statuses are shown (the factory default setting is Inhibit). Take Program Mix 1 as an example to show how to use.

A) Setting method for Normal in Program Mix 1

Touch the item Normal in Program Mix 1 and expands an enquiry “All Servos Hold?” Click OK for all the servos will be locked at the current statuses; click Cancel for unlocked. Enter the next interface after clicking.

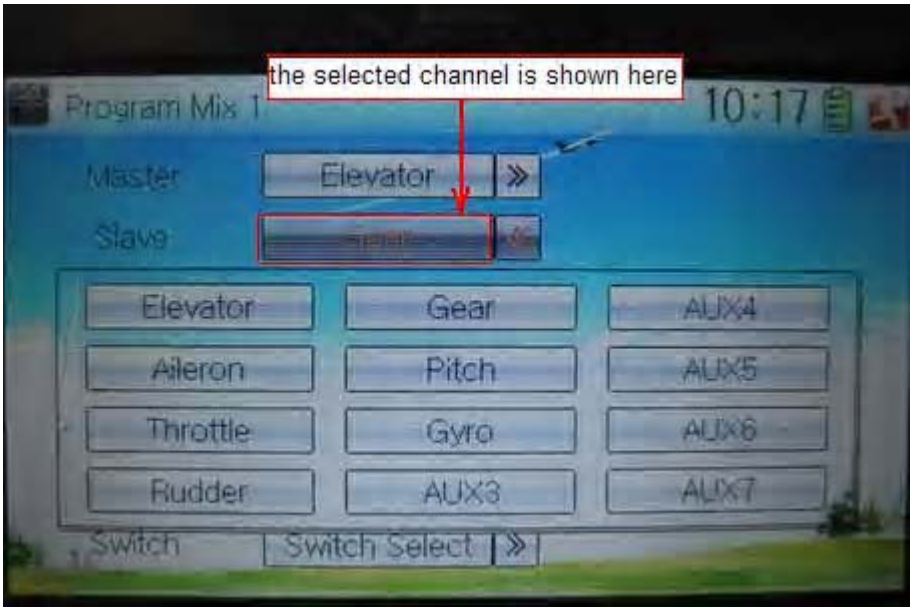
7) Mater channel setting

Touch the navigation mark of Master and expands a selectable dropdown menu. After clicking the desired channel the channel name will be shown in Master.



8) Slave channel setting

Touch the navigation mark of Slave and expands a selectable dropdown menu. Click the desired channel which will be shown in Slave.



9) Gain setting

Take an example of Elevator as Master channel.

3.1) Mix amount setting when elevator stick moved upward

Touch left or right navigation mark of Up to decrease or increase, separately, the mix amount. It is possible to reverse mix direction through changing the plus or minus sign before amount. The adjustable range is ±125%.

3.2) Mix amount setting when elevator stick moved downward

Touch left or right navigation mark of Down to decrease or increase, separately, the mix amount. It is possible to reverse mix direction through changing the plus or minus sign before amount. The adjustable range is ±125%.

8) Offset setting

This function can make Slave begin to mix through switch from a certain point as the starting point.

Touch the left or right navigation mark of Offset to decrease or increase, respectively, the mix amount. It is possible to reverse the offset direction through changing the plus or minus sign before amount. The adjustable range is ±125%.

9) Switch selection

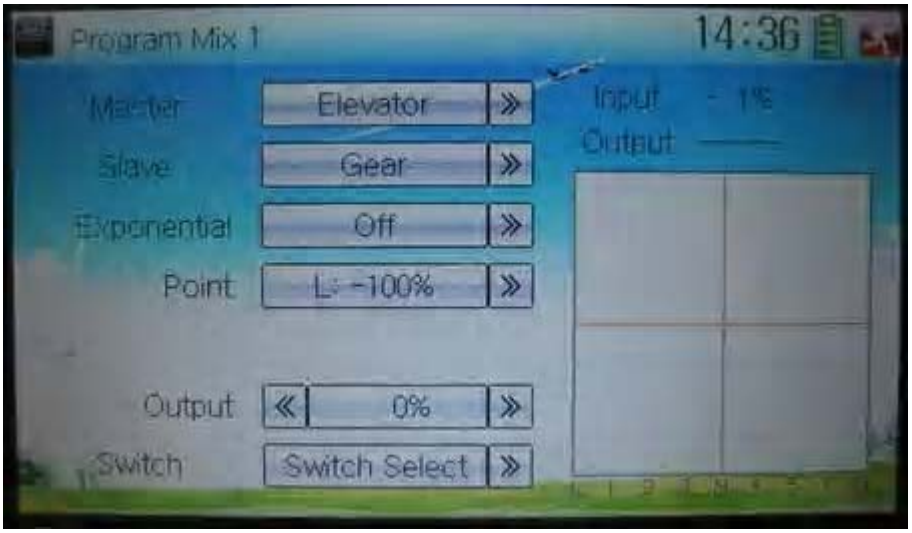
Touch the right navigation mark of Switch and pop up a dropdown menu which contains the adjustable items. Click the desired switch. Then touch the right navigation mark to return the previous interface.

Click the icon to return to the interface of Program Mix for other setting, or click the icon once again to exit.

B) Setting method for Curve in Program Mix2

Touch the item Curve in Program Mix 1 and expands an enquiry “All Servos Hold?” Click OK for all the servos will be locked at the current statuses; click Cancel for

unlocked. Enter the next interface after clicking.



15) Master channel setting

Touch the navigation mark of Master and expand a selectable dropdown menu. Select the desired channel and its name will be shown in Master. Click the navigation mark of Master to return to the interface of Program Mix 1.

16) Slave channel setting

Touch the navigation mark of Slave and expand a selectable dropdown menu. Select the desired channel and its name will be shown in Slave. Click the navigation mark of Slave again to return to the interface of Program Mix 1.

17) Exponential

Touch the navigation mark of Exponential and expand a dropdown menu with two options of Off and On. The pitch curve will be smoothly changed if choosing On. Otherwise choosing Off.

18) Point

Touch the navigation mark of Point and expand a dropdown menu with nine points. Click the point you want to set, and then touch the navigation mark to return.

19) Status

Touch the navigation mark of Status and expand a dropdown with two options of Inhibit and Active. Touch Inhibit for unchanging the current amount (the default setting is Inhibit); click Active for changing the amount.

20) Output

Touch the left or right navigation mark of Output to decrease or increase, respectively, the output amount. It is possible to reverse the mix direction by changing the plus or minus sign before the amount. The adjustable range is ±125%.

21) Switch

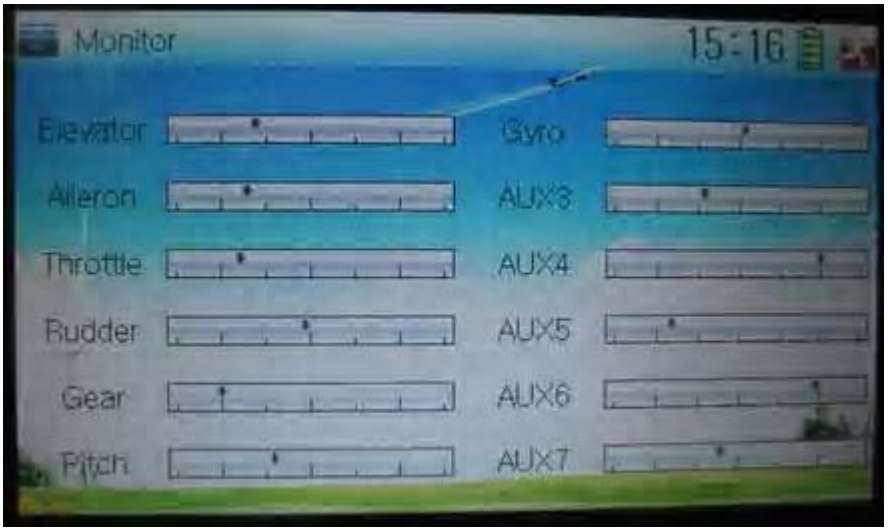
Touch the navigation mark of Switch and expand a usable dropdown menu. Select the desired switch, and then click the navigation mark to return.

Click the icon to return to the interface of Program Mix for other setting, or click the icon once again to exit.

3.19 Monitor

This function can display the current statuses and positions of all the channels' outputs, and check the current working status of each channel.

Touch the icon to enter Function Menu, and then click the icon to enter the interface of Monitor for checking the current working status of each channel.



Click to the icon exit after finished.

3.20 Fail safe

There are two possibilities for use if the transmission signal is under abnormal condition. The first one is to lock the last action data received; the second one is to execute the pre-set data which is pre-set. The default setting is Servo Hold.

Setting method:

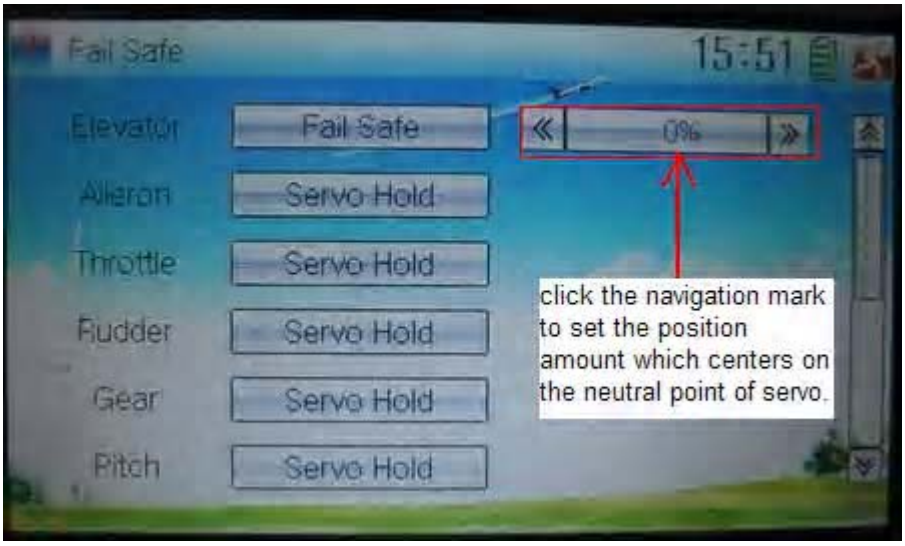
Touch the icon to enter Function Menu, and then click

to enter the interface of Fail Safe.

Take the item Elevator as an example to explain.

Elevator setting:

Touch the item Elevator and expand a sub-item in its right. Click the left or right navigation mark to decrease or increase, respectively, the position amount which centers on the neutral point of servo.



The setting methods for other channels are same as above.

Click the icon to exit after finished.

Note: checking whether all the actions when fail safe happened are correct is a must after the setting is finished. It is dangerous to use full throttle, especially after fail safe taken place.

3.21 Trainer

The training function can be practiced via two DEVO-12 equipments.

Setting method:

A) Data copy

Using the wireless copy function of the two DEVO-12 transmitters, the model data saved in the trainer's transmitter can be transmitted to the trainee's to ensure the model parameters are exactly same. Regarding the copying method, refer to "2.4

Model Wireless Copy”

B) Linkage

Insert one end of the signal wire into DSC socket at the rear face of the trainee’s DEVO-12, and then turn on the power. A linkage icon will be shown on the boot screen. Find out the trainee’s model data.

English	Your language
Linkage icon at trainee’s icon	

Turn on the power of the trainer’s DEVO-12. Find out the trainee’s model data, and let the trainer’s DEVO-12 fly the aircraft model normally. Then turn off the power.

Insert the other end of the digital signal wire into the trainer’s DEVO-12, and then turn on its power. A linkage icon will be shown as below:

English	Your language

Linkage icon at trainer's DEVO-12	

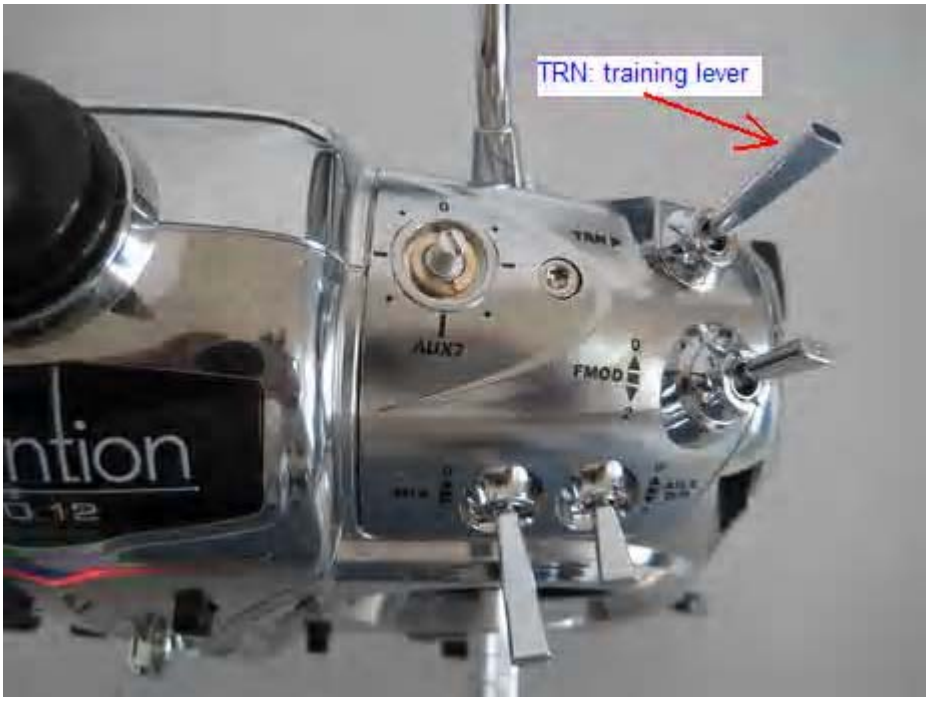
English	**Your language**
DSC socket	
Two ends of digital signal wire	

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.

English	Your language
Trainee is off and trainer is working	
Trainee is working and trainer is off	

C) Usage method

The training switch should be worked with the TRN training lever at the right top of DEVO-12.



English	Your language
TRN: training lever	

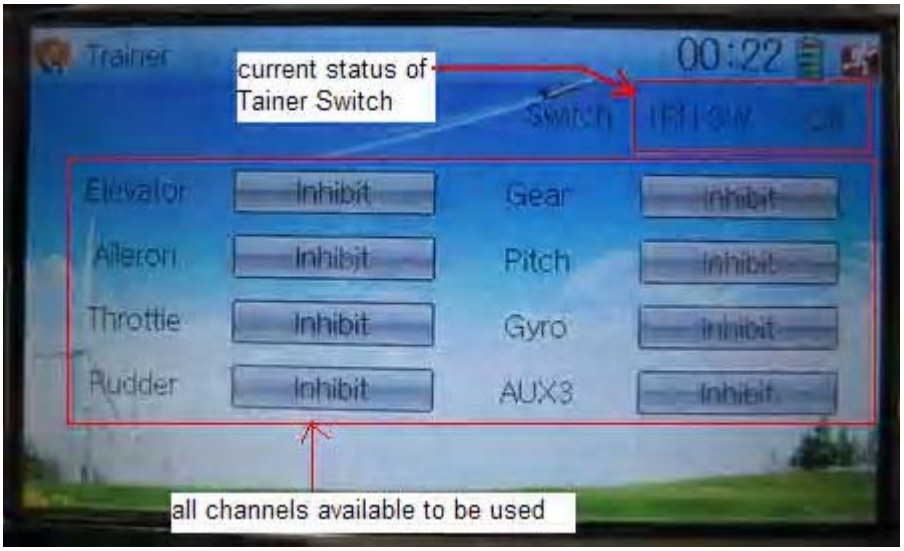
If the trainer's finger pulls the training lever TRN, a "√" is shown in the linkage icon; if the trainer releases his finger from the trainer lever, an "X" will be shown there.

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-12. Below is the setting method:

Touch the shortcut icon to enter Function Menu, and then touch

in Function Menu access to Trainer screen. The available channels are shown below, and the current status of trainer switch TRN is also shown.



English	Your language
Current status of Trainer Switch (TRN SW)	
All channels available to be used	

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

Touch to save and exit after finished.

3.22 Timer

There are two timers which can be set as stopwatch and countdown, respectively. Each timer can be operated by switch or by shortcut.

Setting method:

Touch the icon to enter Function Menu, and then click the icon

to enter the interface of Timer.

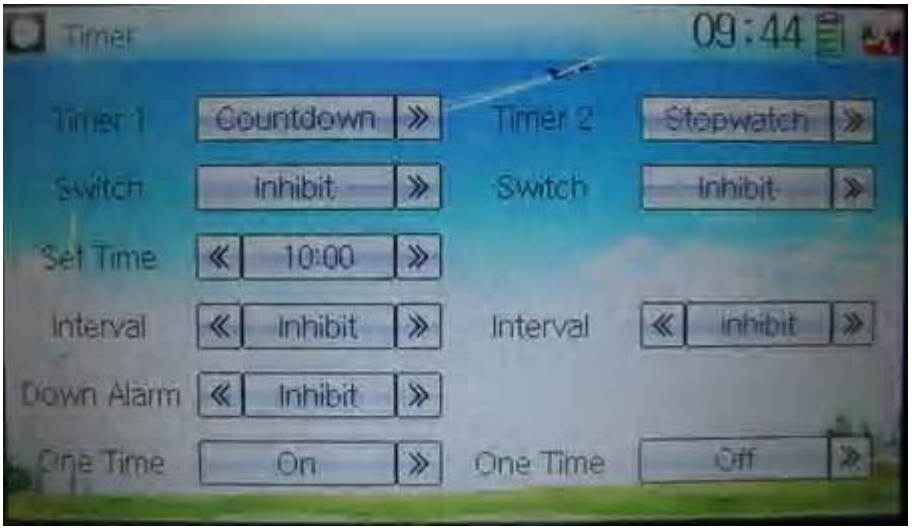
A) Setting for Timer 1

13) Timer 1 setting

Touch the navigation mark of Timer 1 and expand a dropdown of Stopwatch and Countdown. Select the desired timing method. The timing range of stopwatch is from 0 to 59:59 (59 minutes 59 seconds).

Stopwatch view:

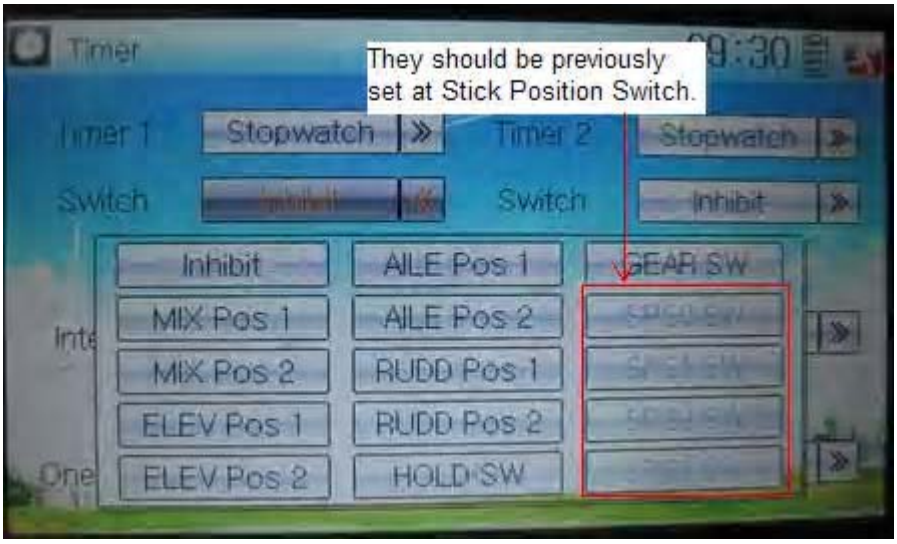
Countdown view:



Take countdown manner as an example to explain.

14) Switch selection

Touch the navigation mark of Switch and get a selectable dropdown



We can select the desired item but these items of SPS0 SW, SPS1 SW, SPS2, and SPS3 which should be previously set at Stick Position Switch at Model Menu (refer to “2.8 Stick Position Switch”).

15) Set time

The settable countdown time range is from 00:05 to 59:55.

16) Interval

This item offers the possibility to set the warning interval. It will warn once every interval time. The adjustable range is from 00.05 to 05:00. The default setting is Inhibit.

17) Down alarm

It is possible to set the down alarm in countdown. The setting range is from 00:01 to 03:00. The default setting is Inhibit.

18) One time

If this function is turned on, counting down cannot be stopped once the countdown works. The default setting is Off.

B) Setting for Timer 2 is same as that for timer 1.

Touch the icon to exit after finished.

This symbol indicating separate collection for electrical and electronic equipment.

FCC Information

This device complies with Part 15 of the FCC Results. Operation is subject to the following two conditions:

(1) This Device may not cause harmful interface, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try correct the interference by one or more of the following measures:

1.1. Reorient or relocate the receiving antenna.
1.2. Increase the separation between the equipment and receiver.
1.3. Connect the equipment into an outlet on a circuit different from that to which receiver is connected.
1.4. Consult the dealer or experienced radio/TV technician for help.

WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.