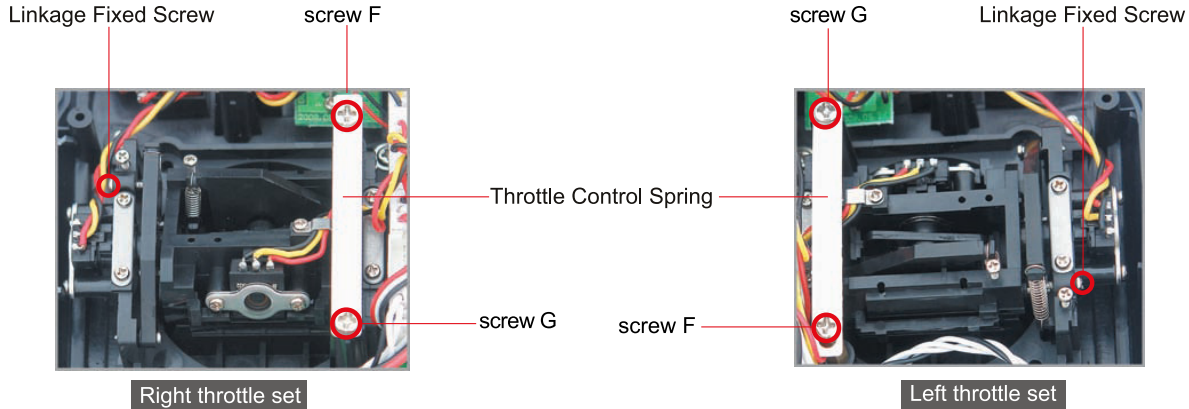


8.1 Right-hand throttle switched to left-hand throttle

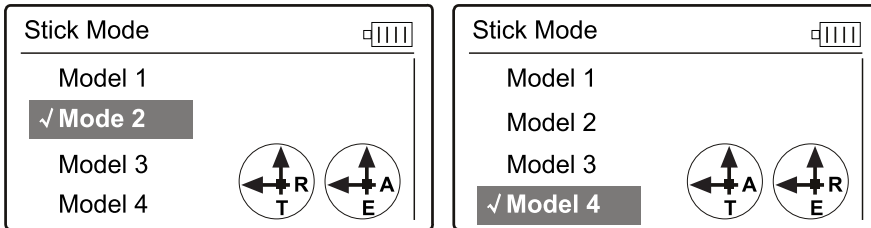
(1) Mechanical switch

Remove the battery and 6 fixed screws in the back cover of Transmitter, and remove the transmitter back cover (Be careful not to break the wires).The internal conditions of the left and right throttle are showed in the following pictures. Then use a Phillips screwdriver to release the connecting rod fixed screw\screw F\screw G and throttle arresting slices in the right throttle position,and fix them up in the corresponding left hand Throttle position.According to personal feeling to adjust screw F(adjust the Throttle stick to desired tention),then fixed up the transmitter back cover.



(2) The ELECTRONIC switch

In the main interface, press ENT to access the main menu;Press UP\DN to choose “system menu”; Press UP\DN to choose “stick model” and access via “ENT” key, or to choose “model 2\4” and confirm via ENT key, make a mark “√” before the choosed model.Press EXT to exit after setup complete.



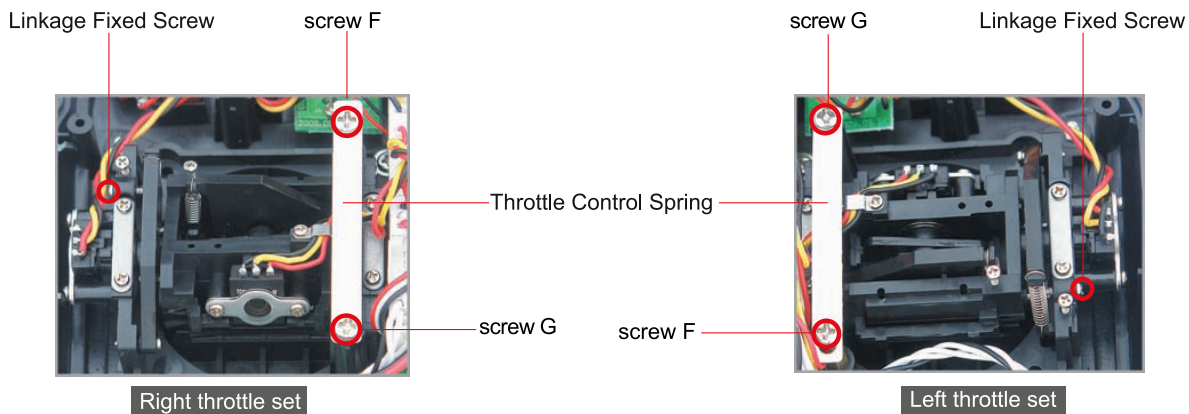
Through the mechanical and electronic switch,the right hand throttle switch to the left hand successfully and can be used normally.

8.2 Left-hand throttle switched to right-hand throttle

(1) Mechanical switch

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

See the following pictures to learn the internal conditions of the left and right hand stich. Then use a Phillips screwdriver to release the connecting rod fixed screw\screw F\screw G and throttle arresting slices in the left hand throttle position,and fix them up in the corresponding right hand Throttle position.According to personal feeling to adjust screw F(adjust the Throttle stick to desired tention),then fixed up the transmitter back cover.

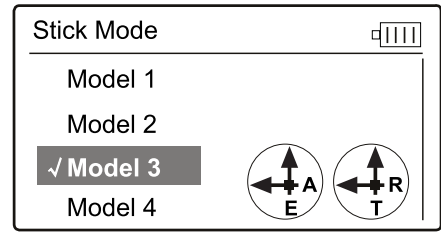
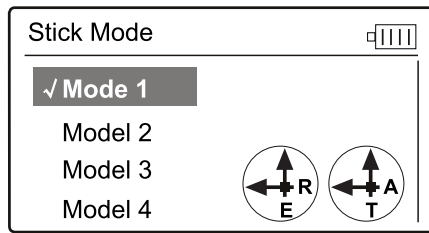


(2) The data switch

Refer to the steps of “8.1 right hand throttle switch to the left hand, (2)electric switch”,access to “stick model”.

The left hand throttle switch to the right hand. There are 4 stick models can be choosed at the stick position.

Press UP\DN to choose “model 1\3” and confirm via ENT key,make a mark “√” before the choosed mode. Press EXT to exit after setup complete.The data can be switched automatically.



The switch from left hand throttle to right is completed and your DEVO 12E is ready for normal flying.

Note: Pay attention to the strength when removing and adjusting the screws. Excessive strength may damage them.

9.0 Training function

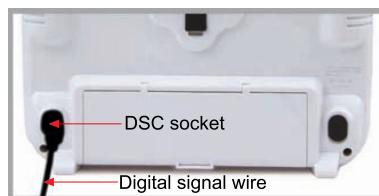
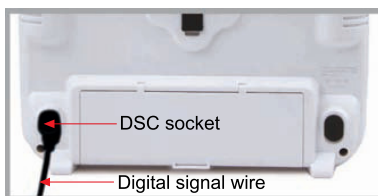
Two DEVO 12E transmitters working together can execute the training function to meet the requirements for the beginner. The setting method is shown as below:

(1) Data copy

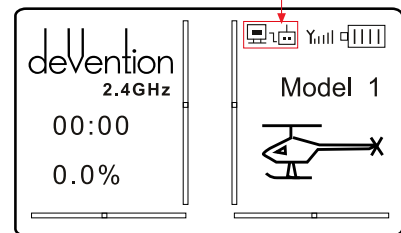
First, use the wireless copy function between two DEVO 12E to copy the main transmitter’s model data to the trainee’s transmitter, this promise the model data between two transmitters is same. Refer the copy method to the second part of helicopter “2.4 model wireless copy” and do the following steps:

(2) Linkage

Insert the digital signal wire from the trainer’s transmitter into the DSC socket of the trainee’s transmitter. Turn on the transmitter and a linkage icon will be shown on the boot screen.

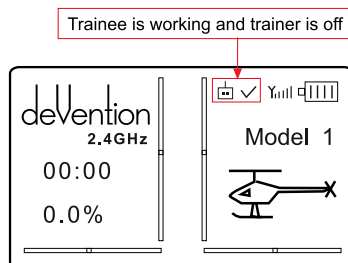
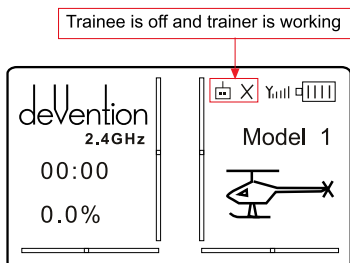


Linkage icon at trainee's DEVO 12E



linkage icon

Turn on the power of the trainer’s radio. Find out the trainee’s model data, and then let the trainer’s Radio bind with the aircraft model and fly it normally. Then turn off the power. Insert the other end of the digital signal wire into the trainer’s DEVO 12E, and then turn on its power. A linkage icon will be shown as below:

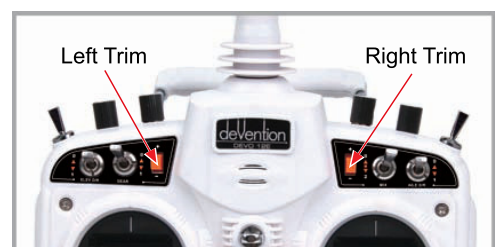


Trainer icon

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

(3) Usage method

The training switch can be freely switchable between Left trim and Right trim. The default setting is Right trim. See the right illustration:

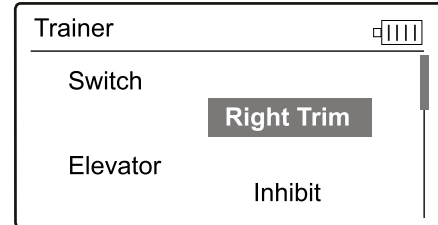


During flight, if the trainer pushes Right Trim once, the linkage icon will be shown as "✓" that means the control right is moved to the trainee from Trainer. If trainer pushes Right Trim once again, the linkage icon will be shown as "X" that means the trainer takes back the control right from the trainee.

(4) Setting for training function channels

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

Press the ENT to enter Main Menu, and then press UP or DN to move the navigational mark to select Function Menu. Then press ENT to enter the Function Menu and press UP or DN to select "Trainer", then press ENT to enter the Trainer interface. The available channels are shown below, and the current status of trainer switch is also shown there.



Trainer switch selection: Press UP or DN to select the switch option; press R or L to select the switch which you want. It includes right and left trim. The default setting is Right trim.

Channel selection: Press UP or DN to select the channel option; Press R or L to select the channel(s) which you want to grant to trainee. The channel(s) you have selected will be activated as "Active". The channels which are not granted to trainee will be kept inhibited. The default setting is "Inhibit".

Press EXT to exit.

10.0 Customized fixed ID

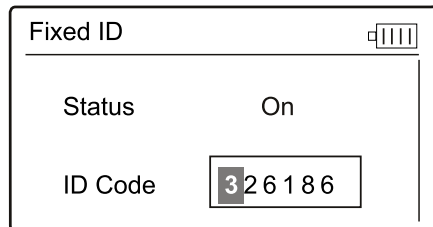
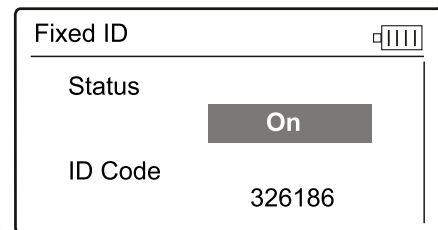
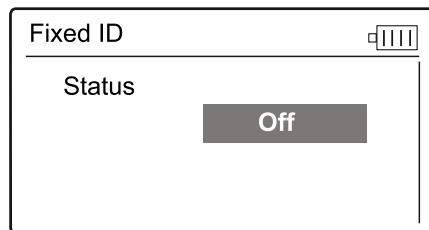
This setting will bind DEVO 12E with its receiver in a unique corresponding relationship. It will greatly speed up the time of automatic binding when DEVO 12E powered on.

(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.

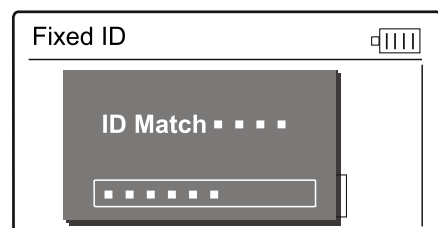
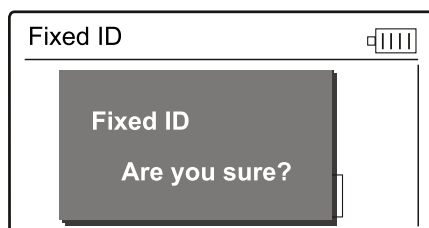
Press ENT to enter the main Menu and press UP or DN to move the navigational mark to select Model menu. Press ENT to enter Model Menu. Press UP or DN to select Fixed ID and press ENT to enter the Fixed ID setting interface.

If you want to activate the fixed ID settings, press R or L to change the status from off to ON. A series of random digits will be shown below after change to On.



Press UP or DN to choose the ID code setting, press R or L to choose the digits, press UP or DN to move to the next code setting. there are 6 digits can be setted.

Press ENT key after the new ID has been setted. An inquiry interface of "Are you sure?" pop up. "ID Code Matching" will be shown after press ENT. After matching, the interface will be returned to Model Menu.



(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 12E also needs to make relative cancellation and revision after the fixed ID in receiver is cleared out.

In the main interface press the ENT to enter Model Menu and then press UP or DN to move the navigational mark to select Model Menu. Press ENT to enter Model Menu. Press UP or DN to select Fixed ID code and press ENT to enter the Fixed ID code interface. Press UP or DN to select Status option, Press R or L to change the status to Off. Then press EXT to exit.



11.0 Installation requirement for receiver

- (1) It is important to correctly mount your radio system in your model. Below are some advices on how to install your equipments.
- (2) Wrap the receiver with 10mm thickness polyfoam and fix it with a rubber band or magic string on your helicopter or airplane. It helps protect the receiver.
- (3) It is necessary for you to use rubber grommets and copper sleeves to isolate the vibration from the main body. The mounting screws cannot be over-tightened. Otherwise, the rubber grommets will be distorted and decrease the vibration absorption effect.
- (4) When mounting the servos, make sure the servos' bell cranks can move freely over their whole travel range and ensure the control linkages don't touch or impede the movement of the servos.
- (5) If installing various switches, please keep them far away from the engine tuned pipe and high vibration sources. Ensure all the switches move freely over their whole range.
- (6) Don't make the receiver antennas wrapped or parallel, keep the two antennas form 90 degrees angle.



11.1 Receiver Frame rate setting

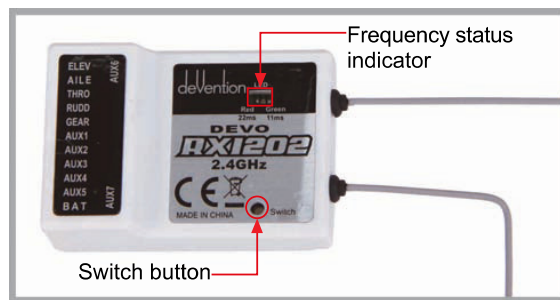
There are 11 Millisecond and 22 Millisecond Frame Rate. When using 11 Millisecond frame rate, it can't be compatible with Analog servos. Please select the 22 Millisecond Frame Rate if use Analog servos.

(1) LED Indicator

- Red LED indicates 22ms frame rate;
- Blue LED indicates 11ms frame rate;
- Red&Blue LED indicate the frame rate is under setting;
- Red& Blue LED flash means both frame rate can be set;

(2) Setting method

After TX and RX binding, press the switch with the tool pen or screwdriver, both indicators will turn on. About 5 seconds, both indicator will flash, then release the switch and press it once again, the frame rate can be changed and the indicators will turn red or blue only. Red means 22ms frame rate and Blue means 11ms.

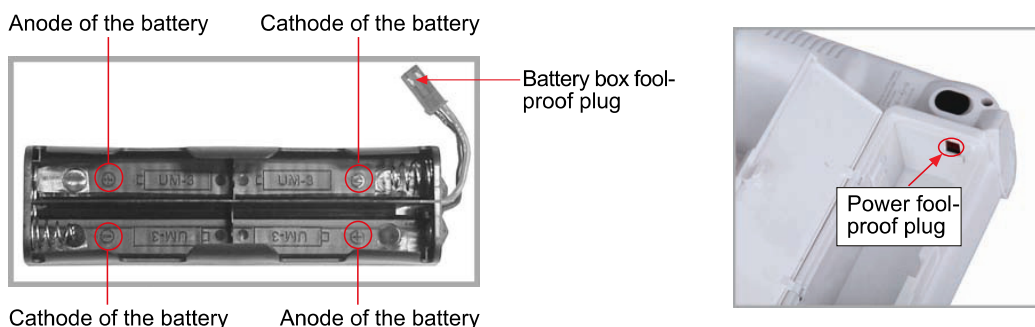


12.0 Installation requirement for DEVO 12E battery pack

Open the battery cover of DEVO 12E transmitter and take out the battery box. Then put 8 cells AA battery or the same size full charged NIMH battery into the battery box. Please check again to make sure the polarities are correct.

Warning: Do not put the polarities of batteries in the opposite directions.

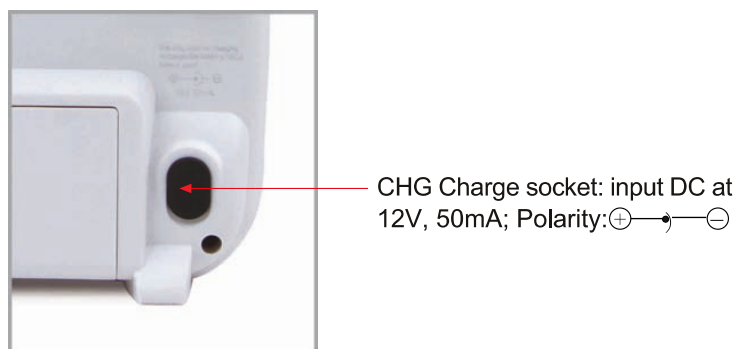
When insert the battery box connector to the transmitter connector, please make the fool proof is right, showing as below picture. Then put the battery box back to battery case.



Note: If you don't use the transmitter, please take out the battery.

12.1 DEVO 12E Battery Charging

Warning: the CHG socket is only used for the rechargeable NIMH batteries. If using the batteries which is unchargeable. The CHG socket is not allowed to use.

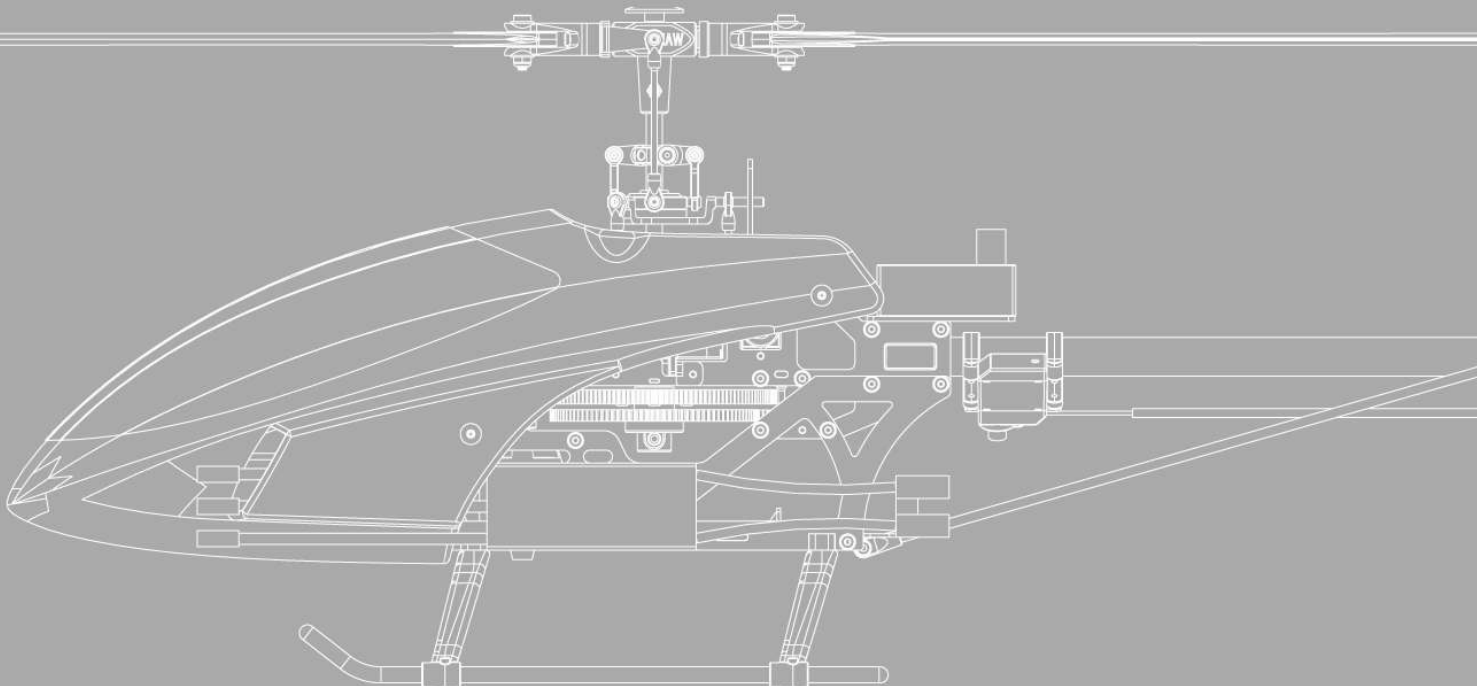


devention

DEVO 12E

Part two Helicopter

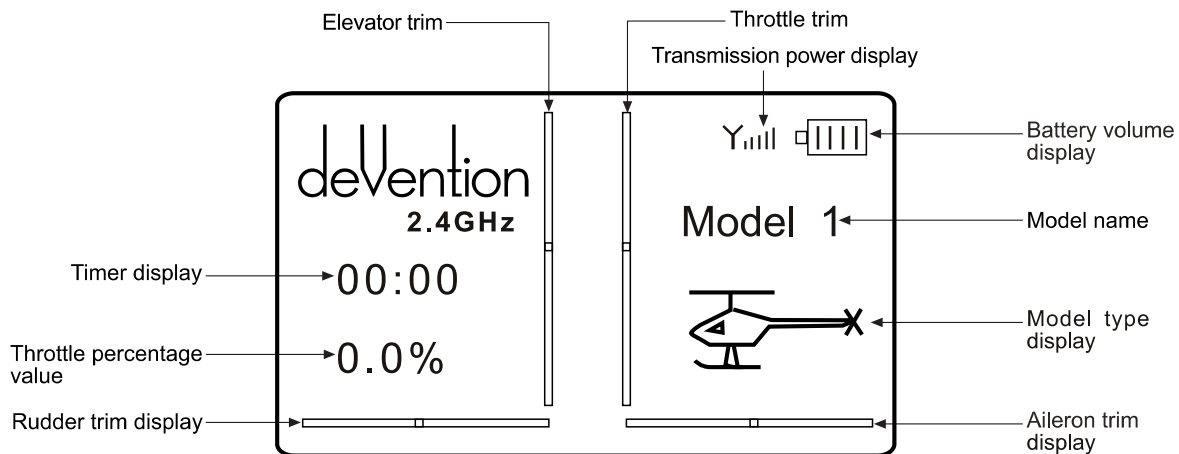
All the functional settings, which are relative to the operation system of DEVO 12E itself, are fully integrated in System Menu. They include Language, Display, Buzzer, vibrator, Stick Mode, Stick Direction, Stick calibration, Battery and About.



1.0 System Menu

All the functional settings, which are relative to the operation system of DEVO 12E itself, are fully integrated in System Menu. They include Language, Display, Buzzer, vibrator, Stick Mode, Stick Direction, Stick calibration, Battery and About.

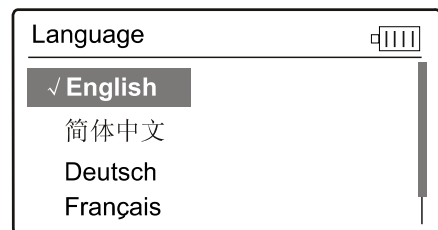
Below is the boot screen of helicopter:



1.1 Language setting

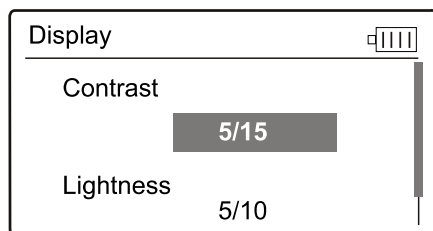
Press ENT to the Main Menu, press UP or DN to select System Menu, then press ENT to System Menu.

Press UP or DN to select "Language" and press ENT to the Language setting interface. Press UP or DN to select the language that you want. A "✓" will be shown on the screen after selected. Press EXT to exit.



1.2 Display

Press ENT to the Main Menu, press UP or DN to select System Menu, then press ENT to System Menu. Press UP or DN to select "Display" and press ENT to the Display setting interface.



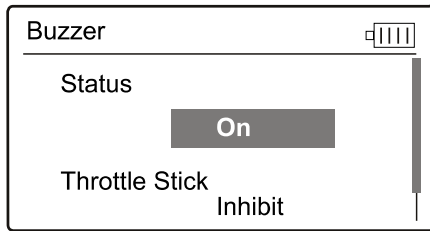
Three items are available to be set. Below are the setting methods for them:

- (1) Backlight contrast: the backlight contrast is adjustable by pushing UP or DN to move the navigational mark to the digits after Contrast. Press R key to increase the backlight contrast, while press L to decrease it.
- (2) Backlight lightness: the backlight lightness is adjustable by pressing UP or DN to move the navigational mark the digits after Lightness. The power consumption will be increased if the backlight lightness is too bright and the battery cruise duration will be shortened. Press R or L to increase or decrease the lightness. When the value is one means turn off the backlight.
- (3) 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. Press UP or DN to move the navigational mark to select the digits after Timeout. Press L to short the time of backlight duration or keep it in the form of "Always on" while push R or prolong the time. The maxium is 60s.

Press EXT to exit.

1.3 Buzzer warning

Press ENT to the Main Menu, press UP or DN to select System Menu, then press ENT to System Menu. Press UP or DN to select "Buzzer" and press ENT to the Buzzer setting interface.



(1) Status: There are On and off two status on the Buzzer interface. Pressing UP or DN to move the navigational mark to the status option. Pressing R or L to change the ON or OFF status. It includes Throttle stick, knobs and Tones items under the status is ON.

(2) Throttle stick buzzer: Press UP or DN to move the navigational mark to Thro Stick item then press R or L to change the status from Inhibit to Active. When Buzzer is at the status of On, if Throttle Stick is set as "Active", a relative musical scale will make response when moving the throttle stick. You can judge the position of the throttle stick according to the different musical scales. Also, it can be set as Inhibit.

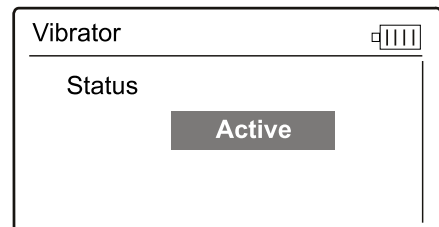
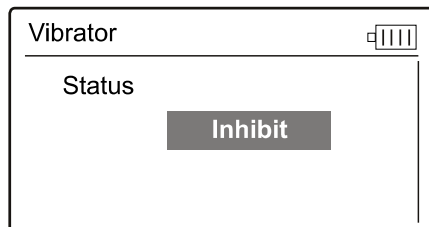
(3) Knobs midpoint Buzzer: When Buzzer is at the status of On, if Knobs is set as "Active", there is buzzer sound when you turn the AUX4 and AUX5 to the midpoint. If you don't need the buzzer sound, please change the status to Inhibit.

(4) Buzzer tone: the tone is composed of 10 grades. You can choose the favorite one according to your interests. Press UP or DN to move the navigational mark to Tone item and press R or L to make a listening test. Press EXT to exit.

1.4 Vibrator

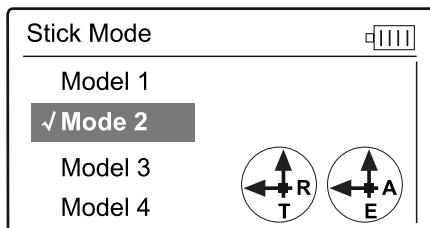
The vibrator used as an alarm function to remind the users.

Press ENT to get the Main Menu, press UP or DN to select System Menu. And then press ENT to get System Menu, press UP or DN to select Vibrator. Press ENT to get Vibrator setting interface. There are two status as Inhibit and Active. Press R or L to select Active if need. Press EXT to exit after finished.

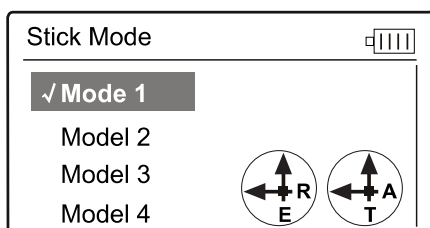
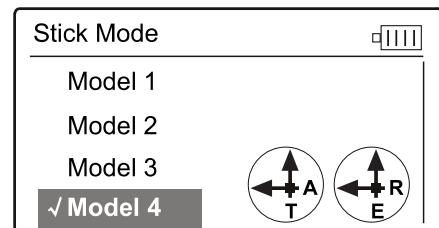


1.5 Stick Mode

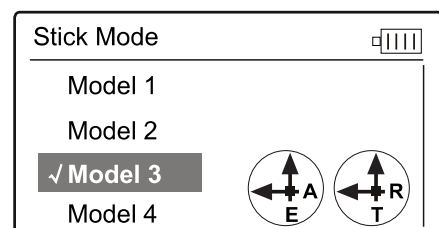
Press ENT to get Main Menu, press UP or DN to select System Menu, and then press ENT to the System Menu, press UP or DN to select Stick Mode, and press ENT to get stick Mode setting interface.



MODE 2 and MODE 4 are listed in left-hand throttle.



MODE 1 and MODE 3 are listed in right-hand throttle.

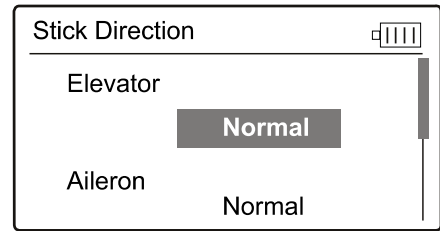


Select the stick mode according to the throttle mode showing on the screen. DEVO 12E offers 4 stick modes, please refer to "8.0 Switches exchange between left-hand and right-hand throttles. Press EXT to exit after finished.

1.6 Stick Direction

Press ENT to get Main Menu, press UP or DN to select System Menu, and then press ENT to the System Menu, press UP or DN to select Stick Direction, and press ENT to get stick direction setting interface.

Stick Direction: There are four items available as Elevator, Aileron, Throttle and Rudder. Press UP or DN to select the stick which will change direction, and press R or L to change the direction. The factory setting is Normal.



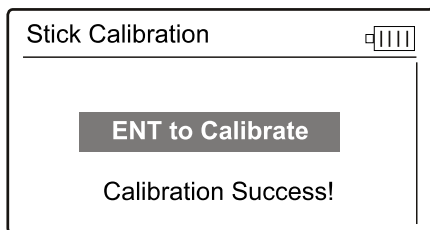
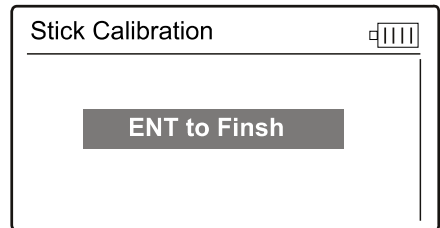
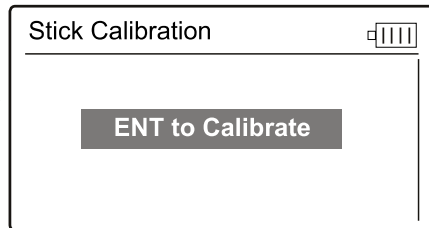
1.7 Stick Calibration

It is a function to re-calibration when stick unusual.

Calibration method:

Press "ENT" to the Main Menu, press UP or DN to select System Menu, then press ENT to System Menu.

Press UP or DN to select Stick Calibration and press ENT to the Stick Calibration setting interface. Press ENT to enter Calibration, and see the left illustration:



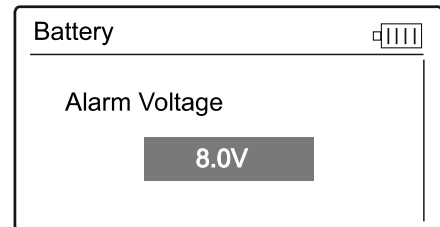
Clockwise or counter clockwise mechanically move the right stick and left stick from minimum levels to maximum levels several times, and then return the stick to the neutral positions, respectively. It will show the calibration is successful after you press ENT to confirm.

Press EXT to exit after finished.

1.8 Battery

Battery voltage can set up the warning value for radio battery in lower voltage.

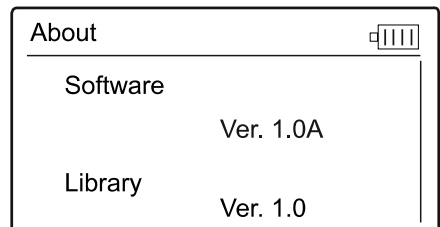
Press ENT to the Main Menu, press UP or DN to select System Menu, then press ENT to System Menu. Press UP or DN to select "Battery" and press ENT to the Battery setting interface. Warning voltage value can be changeable by R or L button.



1.9 About

Press "ENT" to the Main Menu, press UP or DN to select System Menu, then press ENT to System Menu. Press UP or DN to select About and press ENT to the About setting interface.

Press EXT to exit after finished.



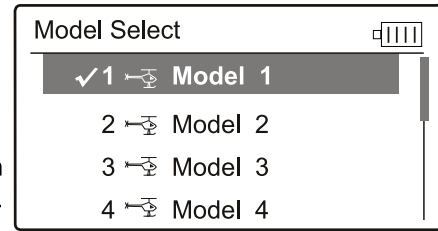
2.0 Model Menu

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

2.1 Model Select

Press ENT to enter Main Menu and press UP or DN to make Model Menu is selected. Press ENT to get the Model Menu and press UP or DN to select Model select, press ENT to enter the Model Select setting interface.

Press UP or DN to select the model you desired, press ENT to confirm and marks "✓" in the front of selected one. Total 30 models are optional. Press EXT to exit after finished.

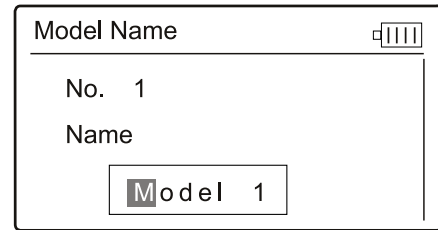


2.2 Model Name

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, press EXT to back to the interface.

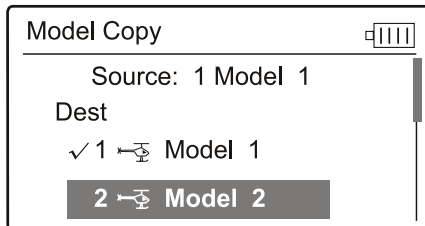
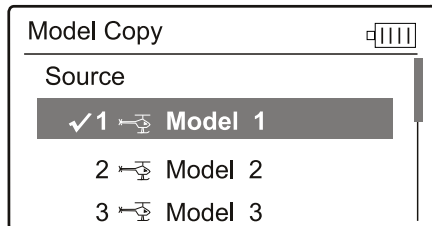
Press "ENT" to enter Main Menu, press UP or DN to select "MODEL Menu", then Press "ENT" to enter Model Menu; Press UP or DN to select "Model NAME" and then press "ENT" button to enter the "Model Name" setting interface.

Press UP or DN to select the character and figure which are needed to be changed, press R or L button to change the character and figure, and press UP or DN to set next one. Press EXT to exit after finished.



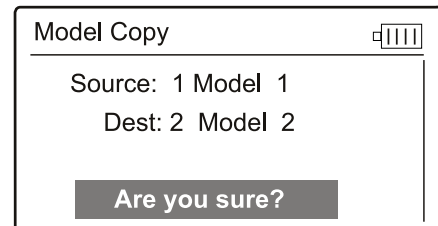
2.3 Model Copy

Press ENT to enter "Main Menu" and press UP or DN to make "Model Menu" is selected. Press ENT to enter "Model Menu" and press UP or DN to select "Model Copy", press ENT to the "Model Copy" setting interface.



Press UP or DN to choose the model you want to be copied as source model and press ENT to confirm, The serial No. and model name of Source Model will be shown as left Illustration.

Then press UP or DN to locate the source model, press ENT to confirm. Then an enquire "Are you sure?" is popped up as below Illustration. Press ENT to copy, or press EXT to exit.

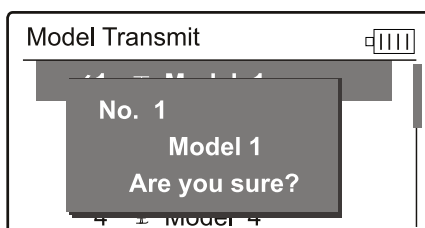
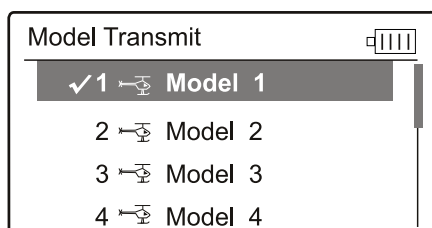


2.4 Model wireless copy

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

(1) Model transmission

Press ENT to enter "Main Menu" and press UP or DN to select "Model Menu". Press ENT to enter "Model Menu" and press UP or DN to select "Model transmission", continue to press ENT to enter "Model Transmit" setting interface.



Press UP or DN to choose the source model which will be transmitted, and press ENT to confirm, an enquiry information "Are you sure?" will be shown as left Illustration.