deVention
DEVO 7

DEVO 7

7-channel micro computer system

DEVO 7 transmitter Users Manual

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

Contents

Part one: General information

Part two: Helicopter

Part three: Airplane

Part four: Upgrade interface

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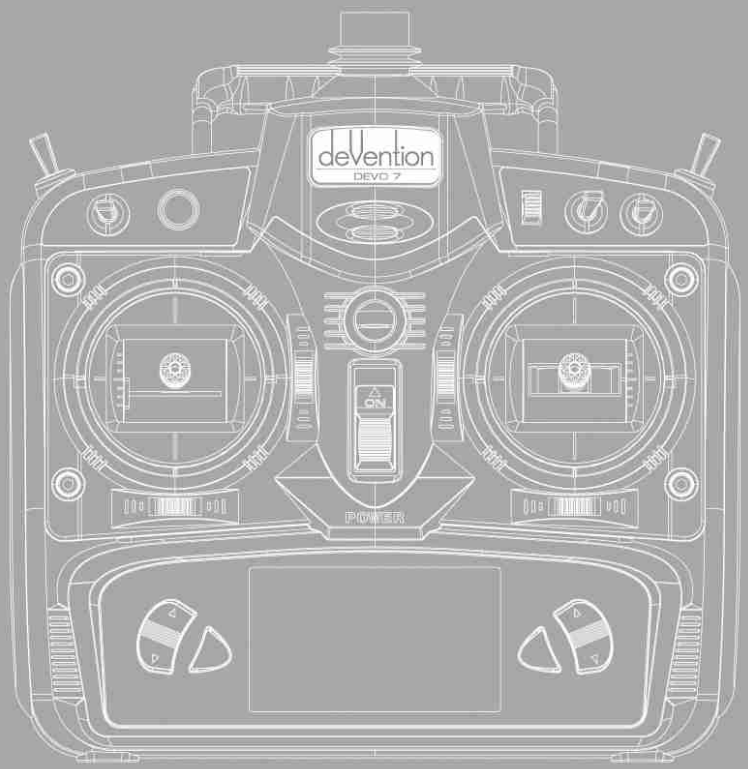
Part one General information

DEVO-7 uses 2.4GHz Direct Sequence Spread Spectrum (DSSS) technology and features automatic ID binding, automatic ID assignment, and also features fixed ID set by yourself. The usage of wireless copy function keeps you away from the trouble in wire link-up. Three mode types of helicopter and airplane are available to meet your requirements for different models. The 2.8"LCD display big size letter which offers more convenient operation. USB update on-line ensures a transmitter in hand not to be out of date and makes it full of vigour.



1.0 General information

1.1 Important statements

(1) This transmitter is suitable for experienced pilots aged 14 years or more.
(2) All model aircraft must be flown in an approved ground or location.
(3) Walkera accepts no responsibility for damage or injury caused by mis-operation, mis-use or mis-control after purchase.
(4) We consign our distributors to offer technical support and after-sales service. Please contact your local distributor for advice or troubleshooting on usage, setup, maintenance, etc.

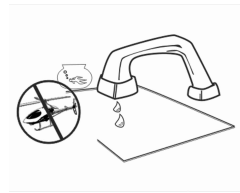
1.2 Safety needing attention

(1) Far away from people and obstacles.

An RC helicopter in flight has risk of uncertain flight speed and direction which is potentially dangerous. Please keep your radio controlled aircraft far away from people, high buildings, high-tension lines, etc, and avoid operating in rain, storms, thunder and lightening.

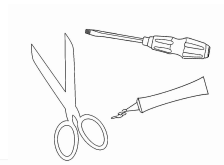
(2) Keep away from humidity

Radio controlled aircraft should be kept away from humidity and vapor because its complex, precise electronic components and mechanical parts may be damaged.



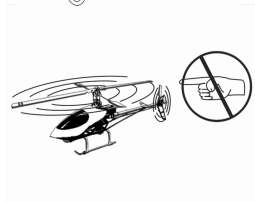
(3) Proper operation and maintenance

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



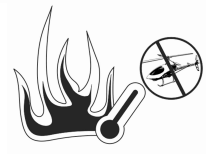
(4) Safe operation

Operate your equipment according to your physical status and flight skills. Fatigue, listlessness and misoperation will increase the possibilities of accidental hazard.



(5) Protect from heat

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



1.3 Attention before flight

(1) Ensure the battery packs of both transmitter and receiver are fully charged.

(2) Ensure both the throttle stick and the throttle trim of your DEVO-7 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-7 first, and connect the battery to the aircraft last. When turning off the aircraft, disconnect the battery first, and turn off your DEVO-7 last. An incorrect order of connection or disconnection may cause the loss of control of your aircraft. Please cultivate the 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. Never operate aircraft with a broken servo as it will result in further damage to the product or people.

2.0 Features

2.1 DEVO-7 Transmitter

(1) The DEVO-7 uses 2.4 GHz Direct Sequence Spread Spectrum (DSSS) technology and supports both fixed and automatic ID binding and ID assignment.

(2) USB Online firmware updates permit use of the latest transmitter features.

(3) Adjustable radio power output to improve battery life.

(4) Wireless data transmission between two DEVO-7 simplifies the use of training mode.

(5) 15-model memory data slots available.

(6) AUX2 Gyro variable gain control makes adjustment for hovering or 3D flight simple.

(7) Large, LED backlit, LCD screen using oversize lettering provides direct and convenient access to menus settings.

(8) Ergonomic design provides comfortable and straight forward operation.

(9) Control stick length and tension can be adjusted to the users preference.

(10) DEVO-7 supports software switching between control Modes 1, 2, 3 and 4.

(11) DEVO-7 is suitable for both helicopter and airplane control. In helicopter mode, three flight modes are available,each one can be individually set and parameters can be configured to support normal, F3C or 3D aerobatic flight modes as required.

2.2 RX701 features

(1) Uses 2.4GHz Direct Sequence Spread Spectrum (DSSS) technology which features instantaneous reaction and strong anti-jamming protection.

(2) Twin receiving circuits and automatic signal switching ensure reliable signal reception.

(3) Single chip Microco CPU provides super-strong signal analysis and filtering.

(4) Frequency and ID memory maintained by the receiver to simplify and speed up switching battery packs with transmitter powered on.

(5) Supports setting of Fixed ID or Automatic ID assignment as desired.

3.0 Specification

3.1 DEVO-7 transmitter Specification

- Encoder ····· 7-channel micro computer system
- Frequency ····· 2.4GHz DSSS
- Output power ····· ≤ 100 mW
- Current drain ····· ≤ 230 mA (100 mW)
- Power supply ····· 5# Battery 8 X1.5V or NiMH 8 X1.2V 1,600 - 2,000 mAh
- Output pulse ·····1000 – 2000 Ms (1500Ms Neutral)

3.2 Receiver specification

- Type ····· 2.4GHz 7 channels
- Sensitivity ····· - 105 dbm
- Frequency interval ····· ≥ 4 M
- Weight ····· 11.6 g
- Dimension ····· 43X28X16mm
- Receiver Battery ····· 4.8-6V 1,300mAh

4.0 Definition of DEVO-7

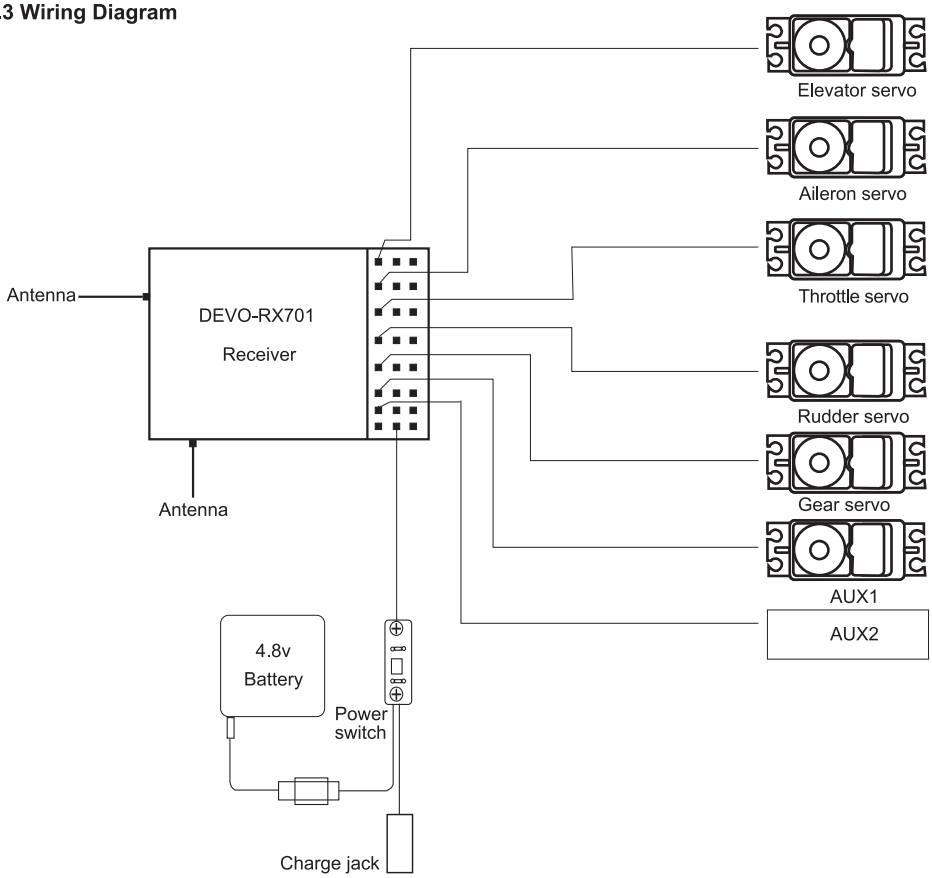
4.1 Front Panel view

4.2 Rear view

(1) Charge socket (CHG): input DC at 12V, Current 50 mAh; Polarity: ⊕—•)—⊖

(2) Digital Signal Converter socket (DSC): used for computer based simulator flight practice (requires additional software and connector dongle available from hobby shops), also can be used for wired training mode.

4.3 Wiring Diagram



4.4 Function keys in panel

There are 6 function keys in the panel of DEVO-7. Below are the details:

(1) EXT: Reset key. Press EXT to exit the main menu.

(2) ENT: Confirmation key. Press ENT to access the system or the function mode.

(3) UP: Moves cursor up to the previous function item.

(4) DN: Moves cursor down to the next function item.

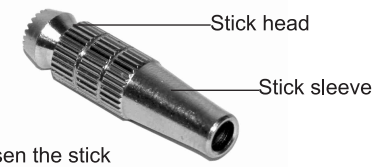
(5) R: Moves cursor up or decreases the setting value.

(6) L: Moves cursor down or increases the setting value.

5.0 Stick Adjustment

2-part stick adjustment : length and tension.

5.1 Stick length adjustment



(1) Extend the stick length: Rotate the stick head counter clockwise until the desired length is achieved, rotate the sleeve counter-clockwise to meet the stick head and tighten.

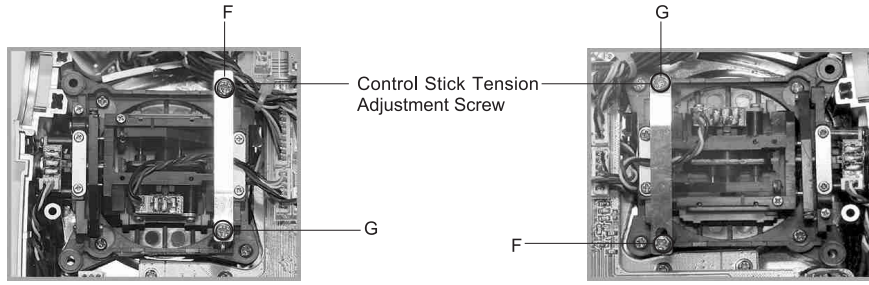
(2) Shorten the stick length: Rotate the stick sleeve clockwise to loosen the stick head, rotate the stick head and sleeve clockwise until the desired length is achieved. Rotate the sleeve counter-clockwise to meet the stick head and tighten.

NOTE: When extending stick length, be sure to leave at least 2 to 3 full turns of stick thread in the stick head, otherwise it may become detached during use.

5.2 Stick tension adjustment

Use a screwdriver to loosen the 6 screws in the rear cover, remove the cover to expose the base plate as shown below:

Find the tension adjuster spring for left and right hand throttle stick as shown below. Using a cross head screwdriver adjust the screw ringed in red below; clockwise will increase stick tension and counter-clockwise reduce it. Replace the transmitter rear cover after completion.

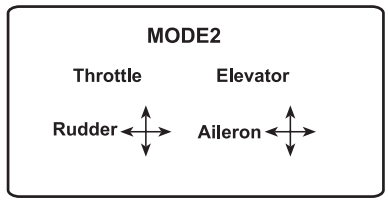


6.0 Neck Strap Usage

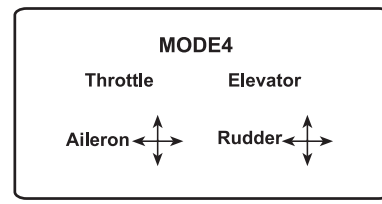
A strong loop is located at the centre of the transmitter for optimal balance and to minimize accidental stick movement. Connect the neck strap clip to this loop.

7.0 Stick Mode Switch

There are total four stick modes from MODE 1 through MODE 4. The left-hand throttle includes MODE 2 and MODE 4, and the right-hand throttle includes MODE 1 and MODE 3. Each Mode's configuration diagram is below:

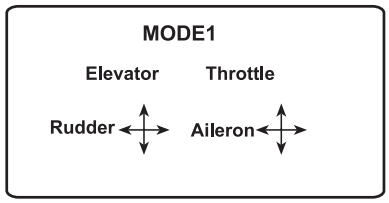


MODE 2

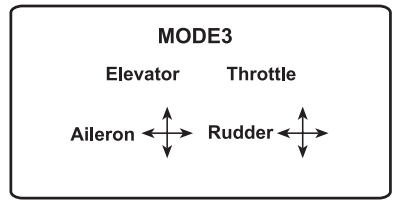


MODE 4

MODE 2 and MODE 4 are configured for left-hand throttle.



MODE 1



MODE 3

MODE 1 and MODE3 are configured for right-hand throttle.

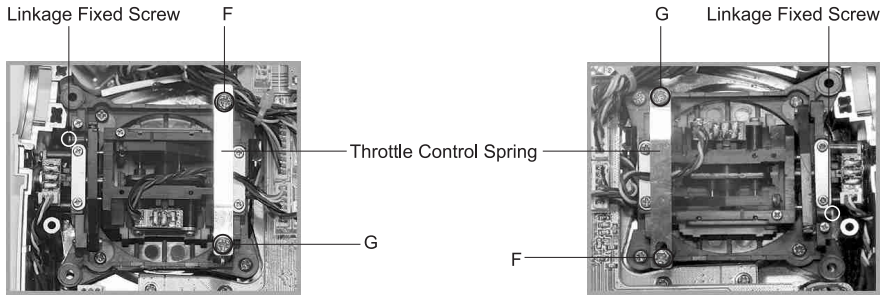
8.0 Switching between left-hand and right-hand throttles

Switching between left and right-handed throttle modes requires both a MECHANICAL and ELCTRONIC switch. It will work correctly only after both parts are completed. Please follow the steps below:

8.1 Right-hand throttle switched to left-hand throttle

(1) MECHANICAL step

Remove the 6 screws and rear cover to expose the base plate. The photo below shows the internal views of right and left hand throttle setups. Using a cross-head screwdriver loosen and remove, in order, the Linkage Fixed Screw, Screw F, Screw G and the Throttle Control Spring from the right throttle set, remount the parts removed into the left throttle set in the corresponding (rotated) positions shown below. Adjust the tension using Screw F to match your preferred setting. Replace the rear cover.



(2) The ELECTRONIC step

From the Main Front Panel, press "ENT" button, in the LCD screen, "System" will start to flash. Press the "ENT" button again to enter the System Menu. Use the UP and DN buttons until flashing "STMOD" appears, press "ENT" to enter Stick Mode Selection Menu. Use UP or DN buttons until flashing "MODE 2" or "MODE 4" appears. Press "ENT" to confirm and "EXT" button to return to operation mode.

All saved model date will automatically be switched to be compatible with Mode 2 or Mode 4.

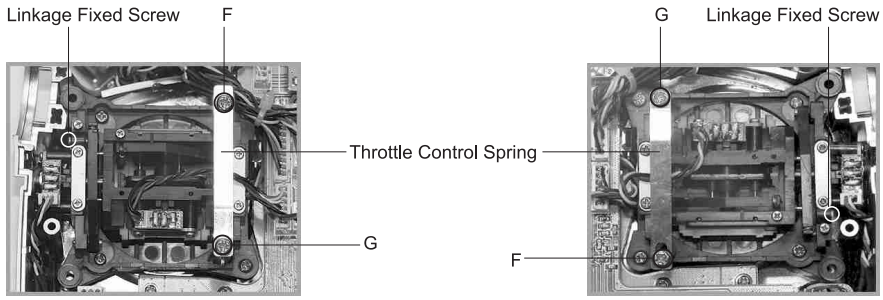
Once both the MECHANICAL and ELECTRONIC steps are successfully completed the transmitter is now ready for normal operation.

8.2 Left-hand throttle switched to right-hand throttle

(1) MECHANICAL step

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

Remove the 6 screws and rear cover to expose the base plate. The photo below shows the internal views of right and left hand throttle setups. Using a cross-head screwdriver loosen and remove, in order, the Linkage Fixed Screw, Screw F, Screw G and the Throttle Control Spring from the left throttle set, remount the parts removed into the right throttle set in the corresponding (rotated) positions shown below. Adjust the tension using Screw F to match your preferred setting. Replace the rear cover.



(2) ELECTRONIC step

From the Main Front Panel, press "ENT" button, in the LCD screen, "System" will start to flash. Press the "ENT" button again to enter the System Menu. Use the UP and DN buttons until flashing "STMOD" appears, press "ENT" to enter Stick Mode Selection Menu. Use UP or DN buttons until flashing "MODE 1" or "MODE 3" appears. Press "ENT" to confirm and "EXT" button to return to operation mode.

All saved model data will automatically be switched to be compatible with MODE 1 or MODE 3.

Once both the MECHANICAL and ELECTRONIC steps are successfully completed the transmitter is now ready for normal operation.

Note: Pay careful attention to the force used when removing, replacing and adjusting the screws. Excessive force may damage them or the base plate.

9.0 Training function

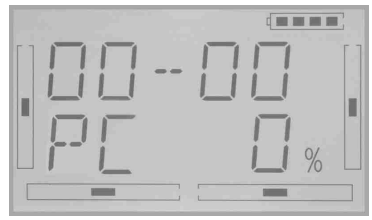
Two DEVO-7 transmitters can be made to work together in order to offer a teachertrainer function, meeting the requirements for a beginner. The setup of training mode is described below :

(1) Model data transmission

First step is to use the DEVO-7's wireless data transmission feature to transfer the teacher's main model data to the trainee's DEVO-7 transmitter. This step guarantees that the model data in each transmitter is identical. Refer to item "2.4 model wireless copy" in the Helicopter section later in this manual. Two DEVO-7 transmitters are needed for wireless data transmission.

(2) Training connection

Insert one end of the signal wire (included) into the DSC socket of the trainee's transmitter and turn it on. PC 0% will be shown in the trainee's DEVO-7 display (see image right).



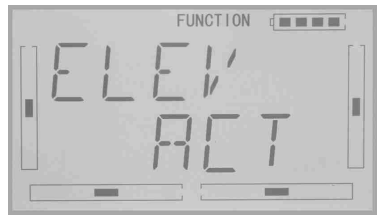
Linkage Display

Turn on the power of the trainer's DEVO-7. Select the same model as the trainee (as transferred in the previous section) and briefly fly the aircraft to confirm the settings are good. Turn off the aircraft and turn off the trainer's DEVO-7 power. Insert the other end of the signal wire into the trainer's DEVO-7 DSC port and turn on the power once more.

(3) Enable or Inhibit training channels

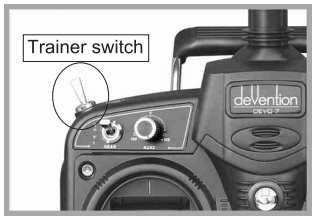
The DEVO-7 permits the trainer to select which channels of the helicopter the trainee has control of. All channels can be inhibited or activated. The setup is described below:

Press ENT and use UP or DN until flashing "FUNCTION" is displayed. Press ENT, then use UP or DN to until a flashing "TRAIN" is displayed, press ENT again. The control channels are displayed in turn using UP or DN and can be configured as either ACT or INH. INH means the trainee will not have control of this channel, ACT means it is possible for the trainee to control the channel. Once the channels have been selected press ENT and then EXT to exit.

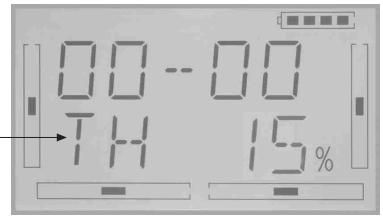


(4) Training mode usage

The default setting is that the training mode switch is on the top left corner of the transmitter, named HOLD/TRN, as shown below:



The throttle output of trainee displayed while in training mode.



When flying, if the trainer operates the TRN switch, control is transferred control to the trainee; also, the trainee's output data is displayed on the trainer's DEVO-7 screen. If the trainer operates the switch once more, the trainer regains control over all functions and channels.

Please check and familiarize yourself with the operation of the training mode before attempting flight or a training session in order to avoid miss-operation and damage/injury.

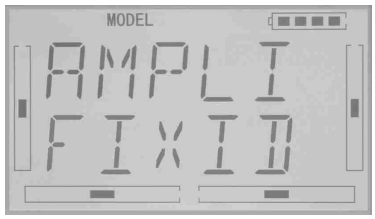
10.0 Customized fixed ID

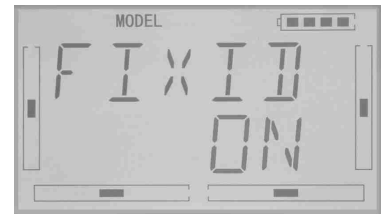
Using the Fixed ID function allows users to create a unique relationship between transmitter model data and the corresponding model's receiver. It significantly speeds up the binding process and also prevents mistakenly flying an aircraft with the incorrect transmitter model selected.

(1) Fixed ID setup

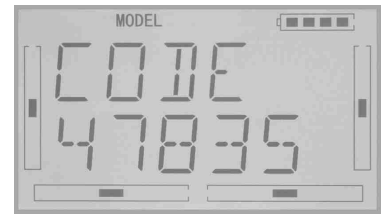
To start the Fixed ID setup it is important that the transmitter and receiver have successfully completed automatic ID binding process. Once the transmitter and receiver are paired a Fixed ID can be set as described below.

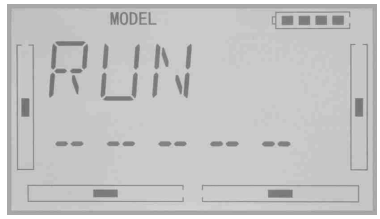
Press the "ENT" button on the main panel and a flashing System will display in the LCD. Use UP or DN to cycle through the options until Model appears flashing. Press "ENT" again to enter into Model edit menu. Press UP or DN until a flashing "FIXID" is displayed, press "ENT" to enter the Fixed ID menu. The current status is displayed. Use R or L to toggle between modes and set to "ON". Press DN to confirm and enter the Fixed ID code setting screen.





Press ENT to change the code data, use R and L to change the code values, press DN to move to the next digit, UP to move to the previous digit. After setting the desired code press ENT, "RUN" will be displayed. Use R or L to change NO to YES and press ENT to confirm and execute the binding process. After binding the display will return to the model menu automatically.



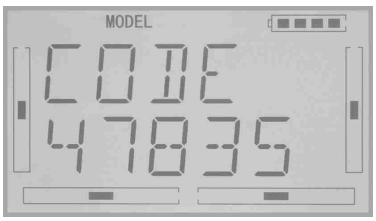


(2) Cancelling/Resetting the Fixed ID

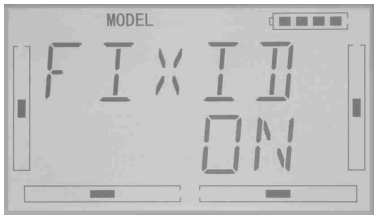
If you wish to change the receiver Fixed ID model back to random ID, insert the included BIND PLUG into the output terminal BATT before the receiver is powered on. Connect 5V DC power to the Throttle channel. The red LED of the receiver will flash slowly. Remove the BIND PLUG. The Fixed ID code has been cancelled.

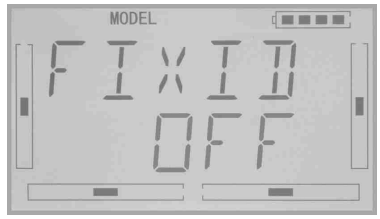
A fter the receiver's Fixed ID is reset it should also be reset in the Transmitter.

Refer to the instructions of Fixed ID setting above. When the following "CODE" image is displayed on screen, press the UP button.



When "FIXID: ON" is displayed, use R or L to toggle to "OFF". Press ENT to confirm and EXT to exit.





11.0 Receiver installation requirement

Below is some advice on how to install your equipment.

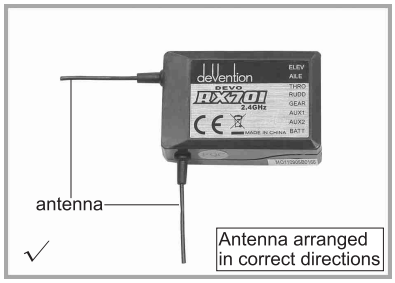
(1) Using 10mm thick foam, wrap the receiver and attach it securely to the aircraft using a cable tie or strong rubber band. The foam will help protect the receiver.

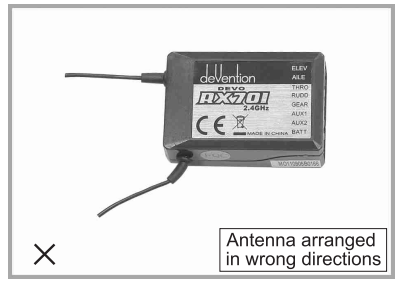
(2) It is suggested to use rubber grommets and copper washers to isolate the receiver from vibrations. Do not over tighten the screws in order that the grommets are not damaged otherwise vibration absorption will be reduced.

(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) If installing additional switches, please install them far away from the engine exhaust pipe and other high vibration sources. Ensure all the switches move freely over their entire range.

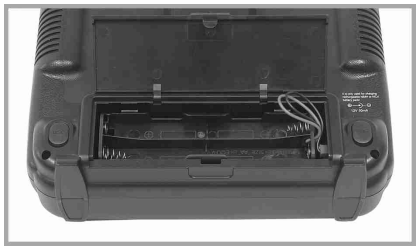
(5) Don't wrap the receiver antennas together or make them parallel; horizontal at 90° will give the best performance.





12.0 Installation requirement for DEVO-7 battery pack

Open the battery cover of the transmitter and take out the battery box. Insert 8 new AA size batteries, use either Alkaline or fully charged NiMH, into the battery box. Double check the polarities are correct and do not mix old and new batteries.



WARNING: Inserting the batteries with the incorrect polarity can cause damage to the transmitter and/or batteries.

12.1 DEVO-7 Battery Charging

WARNING: The CHG socket is only suitable for use with NiMH batteries. If using alkaline batteries or a LiPO pack, it is forbidden and dangerous to use the CHG socket.

Charge socket (CHG): input DC at 12V, 50mA; Polarity: ⊕—•)—⊖

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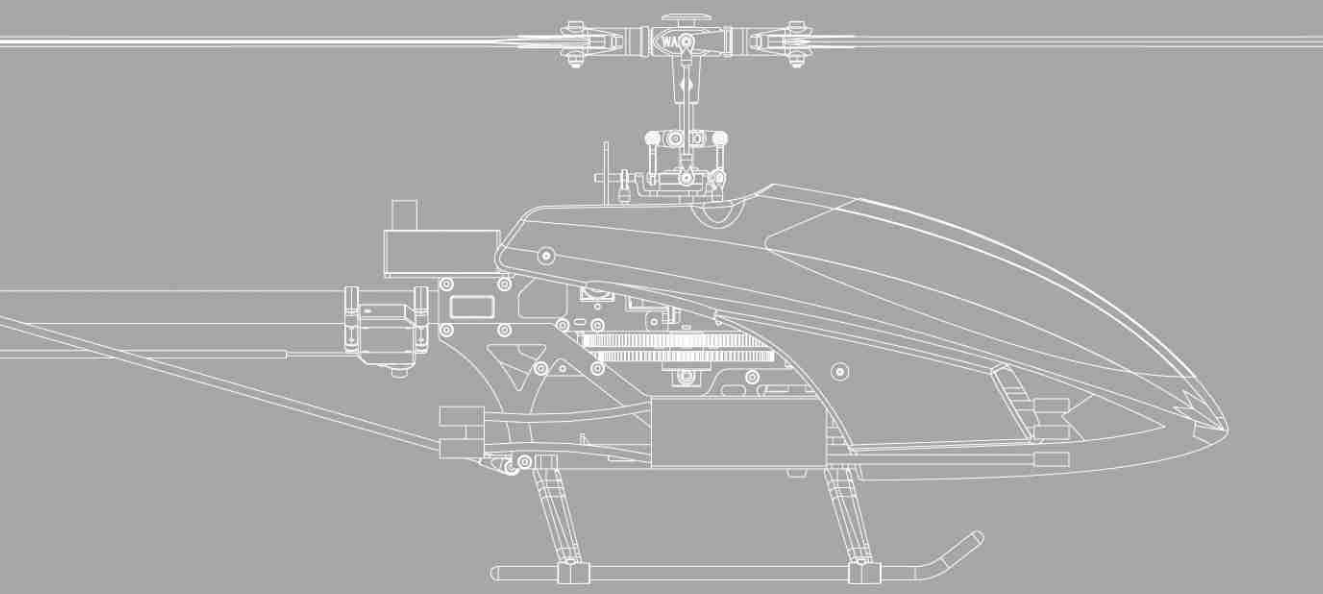
Part two Helicopter

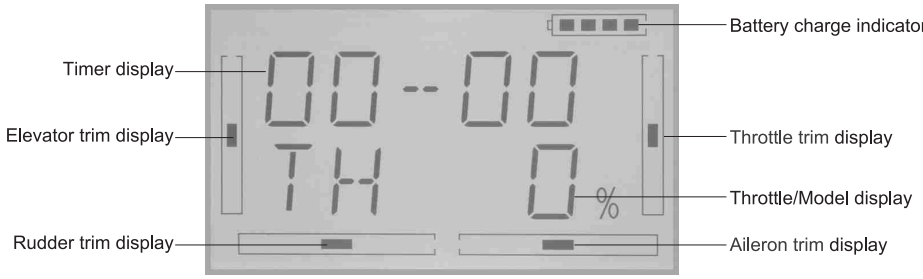
All the functional settings, which are relative to the operation system of DEVO-7 itself, are fully integrated in System Menu. They include Display, Buzzer, Stick Mode, Stick Calibration , and About.
Setup your DEVO-7 transmitter for the best Helicopter performance with the following sections. Included are specific functions for rotor-craft features; Throttle curves, Pitch curves and Cyclic response are covered below.



1.0 System Menu

This section describes the settings which are specific to the operation of the DEVO-7 itself. Settings for Display, Buzzer, Stick Mode, Stick Calibration and About(Firmware) can all be accessed via the System menu.

Below is the boot screen of helicopter:

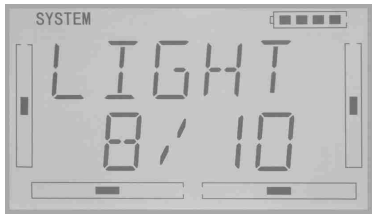


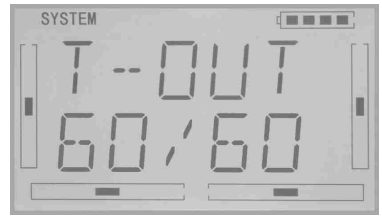
1.1 Display(DISPL)

(1) Backlight intensity: the backlight intensity is adjustable using the up or DN buttons. Power consumption will be increased when intensity is high and battery life will be reduced.

(2) Backlight timeout: the duration for which the LCD stays lit can be configured from 5 to 60 seconds in 5 second intervals or set to "Always On".

Setting: Press "ENT" button to enter the main menu. Press UP or DN buttons until "SYSTEM" starts to flash, press "ENT" to enter into the System sub-menu. Use UP or DN until a flashing "DISPL" is shown, press "ENT". Use UP or DN to show "LIGHT" and use R or L to change the setting as desired.





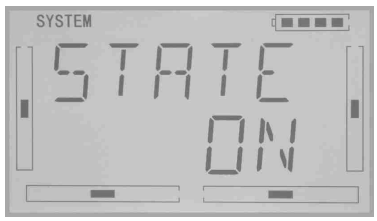
Press DN to enter the Backlight time-out setting, use R or L to adjust the period up to 60 seconds, using a setting of 0 means always on. Press ENT to confirm and EXT to exit to main menu.

1.2 Buzzer Setting(BUZZE)

(1) [SYSTEM/BUZZE/STATE] Buzzer ON/OFF: Press ENT button to enter the main menu, press ENT again while "SYSTEM" is flashing. Use UP and DN until flashing "BUZZE" is displayed and press ENT. When "STATE" is shown, press R or L to toggle between ON and OFF settings. Press ENT to confirm and EXT to exit.

(2) SYSTEM/BUZZE/THSTK] Throttle stick: under the Buzzer setting menu the option THSTK can be set to ON or OFF. If the Throttle Stick setting is ON/Active, a musical scale will be heard when moving the throttle stick. The position of the throttle stick can be judged by listening to the change in musical tone. Setting OFF, turns off the sounds.

After setting the [BUZZE\STATE] setting, press DN until THSTK is displayed. The current status is displayed, use R or L to change the display between INH and ACT. ACT means tones will be played, INH means there will be no tones played.



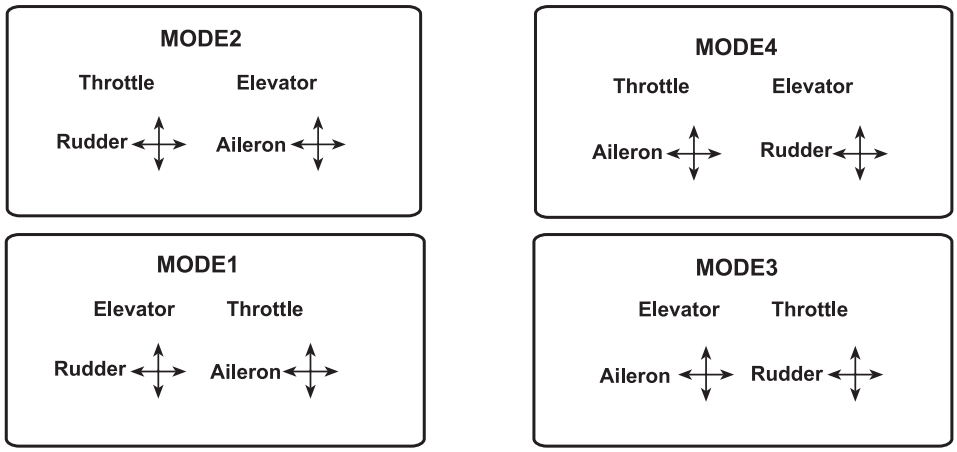
(1) (STATE)Buzzer switch

(2) (THSTK)Throttle stick

(3) [SYSTEM/BUZZE/TONE] Buzzer tone:the buzzer tone can be selected from 10 notes. You can set the tone according to your preference. After setting the "THSTK", press DN until "TONE" is displayed. Use R or L key to change the flashing value between 1 and 10. Press EXT button to exit when finished.

1.3 Stick Mode(STMOD)

There are 4 stick modes including MODE1, MODE2, MODE3 and MODE4. Right-hand throttle includes MODE1 and MODE3; while left-hand throttle includes MODE2 and MODE4. See Below:



Setting:

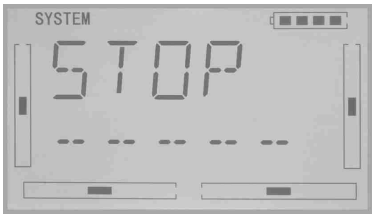
[SYSTEM/STMOD] Stick Mode: from the SYSTEM menu, press UP or DN until flashing "STMOD" is displayed, press ENT again to enter the stick mode selection sub-menu. Use R or L to select the required stick mode. Press ENT to confirm the flashing value and EXT to exit to the main menu.

1.4 Stick Calibration(CALIB)

Enter the SYSTEM menu and use UP or DN until "CALIB" is shown flashing in the display, press ENT to enter the calibration sub-menu. Pressing ENT again will start the calibration process. The display will be as shown below:

Stick calibration: Move all of the control sticks to their maximum and minimum levels several times, when complete, return the sticks to their neutral positions.

Press ENT again to STOP the calibration process and the display should show "START: SUCCESS".



If the display shows "STOP:ERROR", the calibration has failed. Please go back to the STMOD sub-menu using EXT and re-start the calibration process.

Press EXT button to exit after finished.

1.5 About(ABOUT)

From the SYSTEM menu, use UP or DN until a flashing "SOFT" is displayed, press ENT againand the firmware version will be displayed.

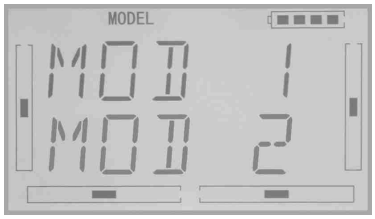
Press EXT to exit when finished.

2.0 Model Menu

Model Menu manages all the model data saved in DEVO-7. It includes Model Select, Model Name, Model Copy, Model Transmit, Model Receive, Model Reset, Type Select, Trim System, Device Select, Device Output, Swash Type, Power Amplifier and Fixed ID.

2.1 Model Selection(SELEC)

Press “ENT” button to enter Main Menu, press UP or DN until “MODEL” starts to flash, then Press “ENT” button to enter Model Menu; Press UP or DN until “SELEC” starts to flash and then press “ENT”key to view model options.



Press UP or DN until the desired model starts to flash. A total of 15 model configurations can be stored. Press ENT to confirm then EXT to exit.

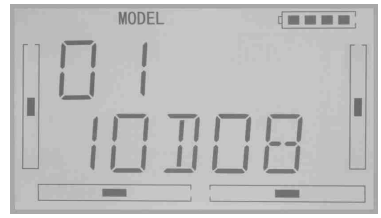
2.2 Model Name(NAME)

In the model name menu, you can edit the model name to 5 characters of your own choosing to simplify configuration selection next flight session.

First, follow step "2.1 Model Selection" to choose the model you want to rename or edit.

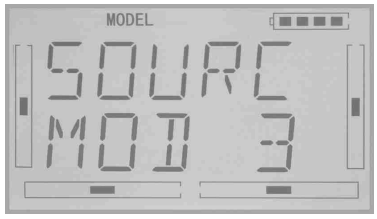
Press ENT to enter the Main Menu, use UP and DN to select MODEL, press ENT to enter Model sub-menu, press UP or DN until "NAME" is flashing in the display. Press ENT again to display the serial No. (1~15) and current name.

Use UP and DN to select the characters to be changed, use R or L to change the selected character. Press ENT then EXT to finish.



2.3 Model Copy(COPY)

Press ENT to enter the Main Menu, use UP and DN to select MODEL, press ENT to enter Model sub-menu, press UP or DN until "COPY" is flashing in the display. Press ENT again to select the source Model. Use R and L to change the selected model.



Press ENT to confirm the destination model into which to copy the current settings. " RUN:NO" will be displayed, use R or L to change to "RUN:YES".

Press ENT to confirm the copy or EXT to exit.

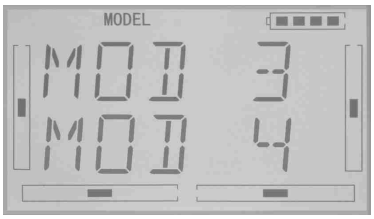
2.4 Model wireless copy

Model data can be copied wirelessly between two DEVO-7 units using the Model Transmit and Model Receive functions in the Model menu.

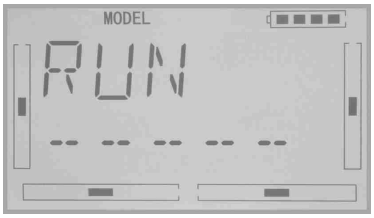
(1) Model data transmission(TRANS)

Press ENT to enter the Main Menu, use UP and DN to select MODEL, press ENT to enter Model sub-menu, press UP or DN until "TRANS" is flashing in the display. Press ENT again and use R and L to choose the source model.

Press ENT again to confirm the selection. "RUN:NO" will be displayed, use R or L to change to "RUN:YES" and ENT to start data transmission (use EXT to cancel).



Shown below is the display of a DEVO-7 in transmit mode. Press EXT at anytime to cancel and exit.

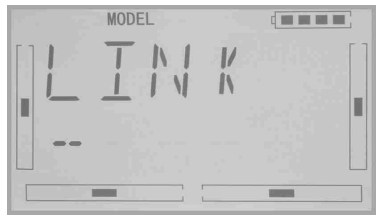


(2) Model reception (RECEI)

To receive model data, first select the model into which data should be copied, follow the process of model selection described previously. Model receive can overwrite an existing configuration so be sure to select carefully.

Press ENT to enter the Main Menu, use UP and DN to select MODEL, press ENT to enter Model sub-menu, press UP or DN until "RECEI" is flashing in the display. Press ENT again to confirm. The display shows "RUN:NO", use R or L to change to "RUN:YES", press ENT to confirm the reception, press EXT to exit.

After confirming "YES" by pressing ENT, the display shows "LINK .....".



After all the data has been received, the saving location will be displayed. Use R and L to change the saving location and press ENT, change the "SAVE:NO" confirmation to "SAVE:YES" using R or L and press ENT to confirm save or EXT to exit.

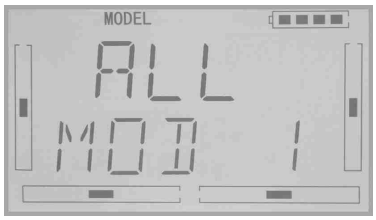
After saving is complete the system will return to the main menu.

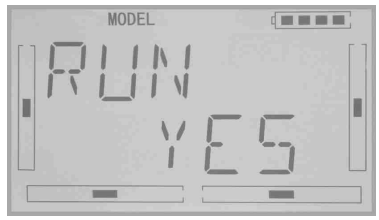
2.5 Model Reset(RESET)

Using the Model Reset function the settings for one or all models can be reset to the factory defaults.

Press ENT to enter the Main Menu, use UP and DN to select MODEL, press ENT to enter Model sub-menu, press UP or DN until "RESET" is flashing in the display. Press ENT again to display the model selection. Use R and L to select "ALL" for all models or the individual model name for a single model reset.

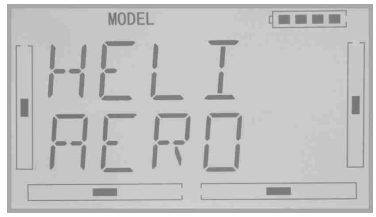
After selecting ALL or a specific model, press ENT, "RUN:NO" enquiry is displayed, use R or L to change it to "RUN:YES" and ENT to confirm or EXT to cancel.





After confirming YES, the model or all data will be erased and the system will return to the Model menu. Press EXt to exit.

2.6 Type Select(TYPE)

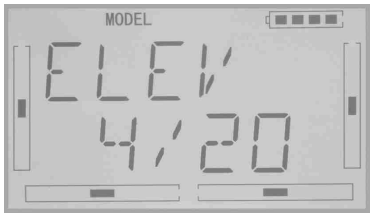


This transmitter offers a choice of two model types. The options are helicopter and airplane.

To change, press ENT button, select the flashing "MODEL" menu using UP or DN, press ENT, press UP or DN until flashing "TYPE" appears, press ENT again. Use L or R button to select "HELI" or "AERO" (flashing item is selected item). Press ENT to confirm and EXT to exit.

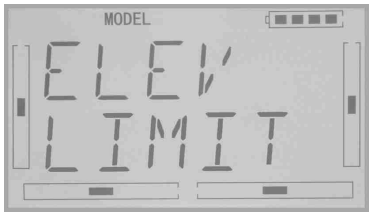
2.7 Trim System(STEP)

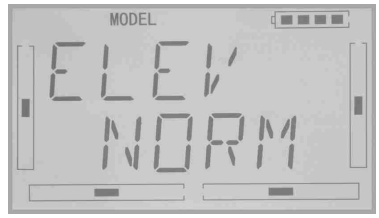
The Trim System permits the user to fine tune the following items: Elevator, Aileron, Rudder, Throttle. The trim step is divided in to 20 (factory default is 4). Using small values, permits fine trim control, larger values make larger adjustments for each 'click' of trim. the procedure to adjust the trim step is as follows:



To change, press ENT button, select the flashing "MODEL" menu using UP or DN, press ENT, press UP or DN until flashing "STEP" appears, press ENT again. Use UP or DN button to select between "ELEV", "AILE", "RUDD", "THRO" (flashing item is selected item). Use L or R to change the step value.
Press ENT to confirm and EXT to exit.

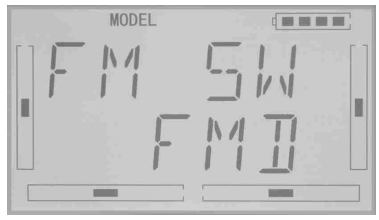
The last 3 settings in this menu determine if the trim is applied at full control stick or not. This can prevent servo binding at maximum extents. When "NORM" is displayed, the trim setting is always applied, even at 100% travel. "LIMIT" setting, means that the trim is not applied when the control stick is a full travel. Default is "NORM". Press ENT to confirm, EXT to exit.





2.8 Device Select(INPUT)

This setting allows customization of the various function switches. The switches Flight Mode (top right corner) and Throttle Hold (top left corner) can accept custom settings. Stunt Trim mode can also be defined under this sub-menu.



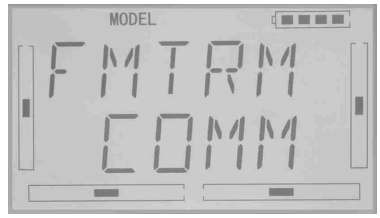
To change, press ENT button, select the flashing "MODEL" menu using UP or DN, press ENT, press UP or DN until flashing "INPUT" appears, press ENT again. Use UP or DN button to select the switch you wish to program. Use R or L to cycle through the available options. Press ENT to confirm and EXT to exit.

(1) Flight Mode Switch

The 3 different Flight mode options can be assigned to use either of the 2, 3 position switches, FMD or MIX. FMD is the default.

(2) Stunt Trim Mode

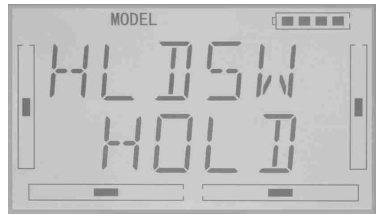
There are two option modes: Common and Flight Mode. In Common mode, all the trim value settings are applied the same to each Flight Mode. In Flight Mode, the trim value can be set and remembered differently for each of the 3 available Flight Modes. The default is "COMM", common.



Setup:
In the "INPUT" sub-menu (see above), use UP or DN to display "FMTRM" as shown in the diagram (right). Press R or L to select between the options "COMM" or "FMOD".

(3) Throttle Hold Setting

The function of Throttle Hold can be assigned to the following switches/positions: FMD12, FMD2, MIX12, MIX2, D/R, HOLD, GEAR. The factory default is HOLD.



Setup:

In the "INPUT" sub-menu (see above), use UP or DN to display "HLDSW" as shown in the diagram (right). Press R or L to select between the options.

Press ENT to confirm, EXT to exit.

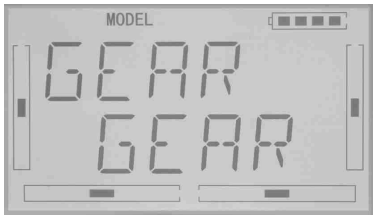
2.9 Device Output(OUTPUT)

Using the Device Output menu the outputs from the switches/knobs can be configured. Reassignment, deactivation or alternative function assignment is possible.

Setup: To change, press ENT button, select the flashing "MODEL" menu using UP or DN, press ENT, press UP or DN until flashing "OUTPUT" appears, press ENT again. Use UP or DN button to select the switch you wish to program. Use R or L to cycle through the various options. Press ENT to confirm and EXT to exit.

(1) GEAR

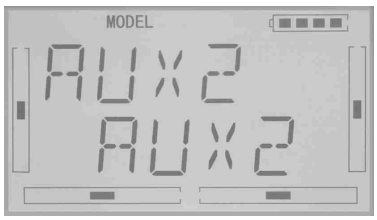
Pressing R or L in OUTPU sub-menu can change the GEAR channel assignment to a different switch. The available choices are: FMD, MIX, D/R, HOLD, GEAR, TRN and AUX2. The default is the GEAR switch.

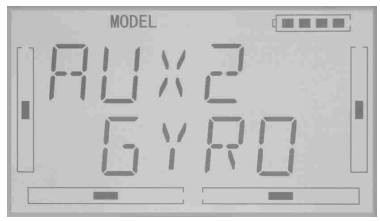


Pressing DN again shows the current status of the GEAR switch. Pressing R or L can toggle the setting between ACT (active), INH (disabled) and GYRO.

(2) AUX2

Directly after setting the GEAR switch above, pressing DN again enters the AUX2 control. Pressing R or L can alter the assignment/function of the AUX2 knob. Available options are: FMD, MIX, D/R, HOLD, GEAR, TRN and AUX2. The default is AUX2.



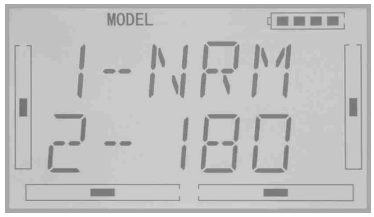


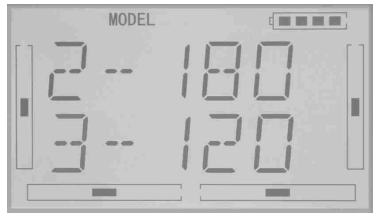
Pressing DN again displays the activation/assignment status of the AUX2 control. Pressing R or L can cycle through the active, inhibit or alternative assignment options as follows: INH, ACT, GYRO and GOV (governor). Press ENT to confirm, EXT to exit .

2.10 Swash Type(SWASH)

The Swash Type menu features five options: 1 Servo Normal, 2 Servos 180°, 3 Servos 120°,3 Servos 140°, and 3 Servos 90°.

Setup: To change, press ENT button, select the flashing "MODEL" menu using UP or DN, press ENT, press UP or DN until flashing "SWASH" appears, press ENT again. Use UP or DN buttons cycle through the various options, 1-NRM, 2-180, 3-120, 3-140 and 3-90. Press ENT to confirm the flashing selection and EXT to exit.

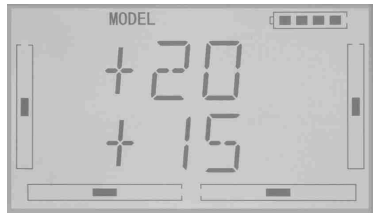




2.11 Power Amplifier(AMPLI)

The radio transmission output power of the DEVO-7 is adjustable. It is divided into six grades. The lower the transmitter output power, the shorter the radio range and the longer the battery life. The higher the transmitter output power, the longer the radio range and the shorter the battery life. Choose the appropriate setting according to the actual situation and use.

Press ENT button, select the flashing "MODEL" menu using UP or DN, press ENT, press UP or DN until flashing "AMPLI" appears, press ENT again. Use UP or DN buttons cycle through the six options, +20, +15, +10, +5, 0 and -5. Press ENT to confirm the flashing selection and EXT to exit.



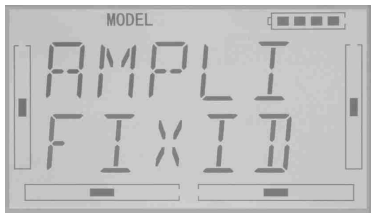
2.12 Fixed ID(FIXID)

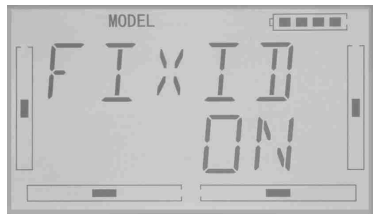
Using the Fixed ID function allows users to create a unique relationship between transmitter model data and the corresponding model's receiver. It significantly speeds up the binding process and also prevents mistakenly flying an aircraft with the incorrect transmitter model selected.

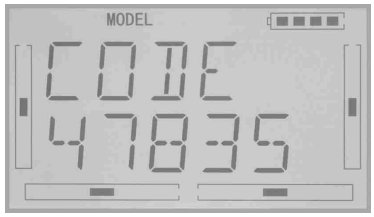
(1) Fixed ID Setup

To start the Fixed ID setup it is important that the transmitter and receiver have successfully completed the automatic ID binding process. Once the transmitter and receiver are paired a Fixed ID can be set as described below.

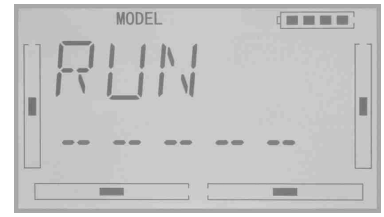
Press the "ENT" button on the main panel and a flashing System will display in the LCD. Use UP or DN to cycle through the options until Model appears flashing. Press "ENT" again to enter into Model edit menu. Press UP or DN until a flashing "FIXID" is displayed, press "ENT" to enter the Fixed ID menu. The current status is displayed. Use R or L to toggle between modes and set to "ON". Press DN to confirm and enter the Fixed ID code setting screen.







Press ENT to change the code data, use R and L to change the code values, press DN to move to the next digit, UP to move to the previous digit. After setting the desired code press ENT, "RUN" will be displayed. Use R or L to change NO to YES and press ENT to confirm and execute the binding process. After binding the display will return to the model menu automatically.

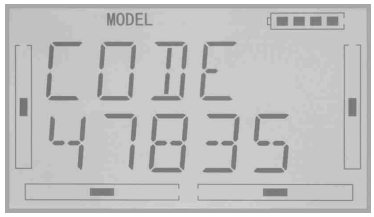


(2) Cancelling/Resetting the Fixed I D

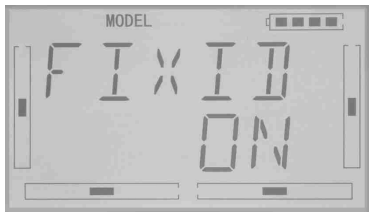
If you wish to change the receiver Fixed ID model back to random ID, insert the included BIND PLUG into the output terminal BATT before the receiver is powered on. Connect 5V DC power to the Throttle channel. The red LED of the receiver will flash slowly. Remove the BIND PLUG. The Fixed ID code has been cancelled.

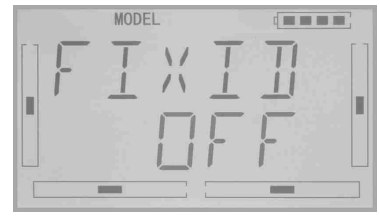
After the receiver's Fixed ID is reset it should also be reset in the Transmitter.

Refer to the instructions of Fixed ID setting above. When "CODE" is displayed on screen, press the UP button.



When "FIXID: ON" is displayed, use R or L to toggle to "OFF". Press ENT to confirm and EXT to exit.



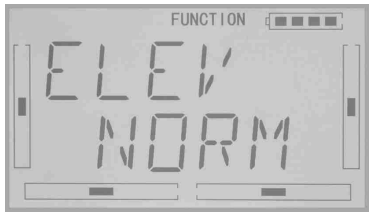


3.0 Function Menu

The Function Menu allows you to customize the settings for your saved models. This menu includes the following: Channel Reverse setting, Servo Travel Adjustment, Sub Trim, Dual Rate/Exponential, Throttle Hold, Throttle Curve, Mix to Throttle, Gyro Sensor, Governor, Swash Mix, Pitch Curve, Program Mix, Monitor, Fail Safe, Trainer and Timer.

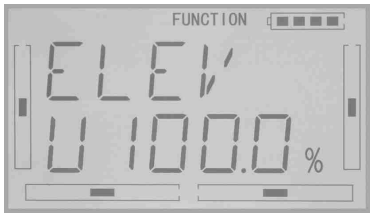
3.1 Reverse Switch(REVSW)

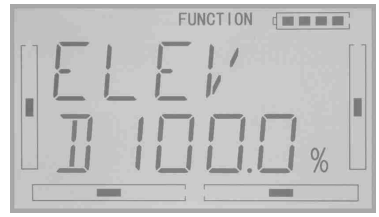
Press ENT, then use UP/DN until FUNCTION flashes in the display, press ENT to enter the FUNCTION menu. Use UP/DN to select REVSW and press ENT. The channel name will be displayed and the current status flashing alongside. Use R or L to toggle between NOR and REV. To select the next channel press DN. All the channels, ELEV, AILE, THRO, RUDD, GEAR, PITCH and GYRO, can all be set using this process. Use EXT to finish.



3.2 Travel Adjust(TRVAD)

Enter the FUNCTION menu as described above. Use UP/DN to select TRVAD and press enter. Displayed are the max and min percentage values for servo travel on each channel. Use R or L to change the value, use UP or DN to move to the next setting. The settings for all channels, ELEV, AILE, THRO, RUDD, GEAR, PITCH and GYRO can all be set using this process. Press EXT to exit when finished. The first channel ELEV is used in the example below.

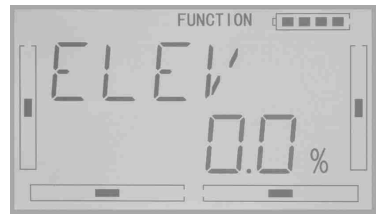




3.3 Sub Trim(SUBTR)

NOTE: Sub Trim is used to fine tune the servo neutral position during setup. In order to avoid pushing the servo beyond it's limits and possibly causing damage it is advised to first mechanically adjust the servo arm/bell crank to be as close to the neutral point as possible. Only when this is complete may sub trim be used to make a final adjustment .

SETTING: Enter the FUNCTION menu as described earlier and select SUBTR using UP/DN buttons. Press ENT to enter the subtrim setup menus. The channel name is displayed it's subtrim setting. Use R and L to adjust until the servo arm is in the required position. U(UP), or D(DOWN) or + or - will be displayed left of the value depending on the direction of adjustment. As the previous settings, ELEV, AILE, THRO, RUDD, GEAR, PITCH and GYRO can all be adjusted using the same process. ELEV is used in the example below.



The default for every channel is 0.0%. The permitted adjustment ranges are show in the table below:

Channel name	Adjustment range	Channel name	Adjustment range
Elevator	D62.5%~U62.5%	Gear	−62.5%~+62.5%
Aileron	R62.5%~L62.5%	Pitch	L62.5%~H62.5%
Throttle	L62.5%~H62.5%	Gyro	−62.5%~ +62.5%
Rudder	R62.5%~L62.5%		

Press EXT to exit when finished.

3.4 Dual Rate and Exponential(DREXP)

Dual Rate/Exponential is a function which permits a change in behavior of the control sticks between pre-defined settings. Dual Rate alters the maximum and minimum servo travel available, Expo has no effect on the maximum or minimum travel but decreases or increases the sensitivity to stick movement in an exponential manner. One use of Dual Rate/Expo is to reduce the sensitivity of the controls when landing.

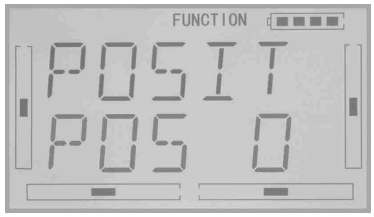
On the Devo 7, the D/R switch can control the rate settings for ELEV, AILE and RUDD or alternatively, the dual rates can be coordinated to work with the Flight Mode switch FMD. The permitted setting range is from 0-125%.

(1) Channel selection

Setup: Use ENT and UP/DN to enter the FUNCTION menu as described earlier. Use UP/DN and ENT to select the DREXP menu from the available options. After entering the DREXP menu the setting for the ELEV channel will be displayed first by default. Use R or L to select the channel you wish to modify. The channels available are ELEV, AILE and RUDD. ELEV is shown in the following example.

(2) Position selection

Press DN to display the Switch Position setting as shown in the picture above. The positions available are POS0, POS1, POS2 and POS3. Use R and L to select the position you wish to change.

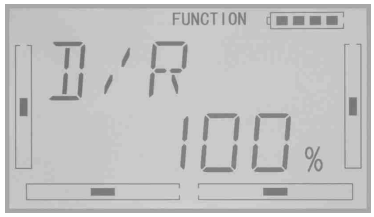


(3) Dual Rate adjustment

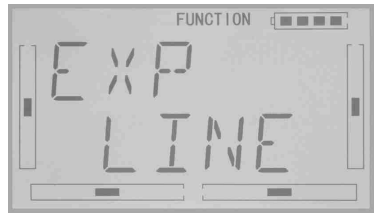
After choosing the correct position setting, press DN to show the current D/R setting. Use R and L to change this to your preferred value (range is 0-125%).

(4) Exponential adjustment

Once the Dual Rate value is set correctly, press DN once again to enter the EXP setting. Default is LINE (linear) and using the R/L keys you can increase or decrease Expo. Positive Expo reduces sensitivity in the mid-stick zone, negative increases the sensitivity. The defaults are shown below.



(3) Dual Rate adjustment



(4) Exponential adjustment

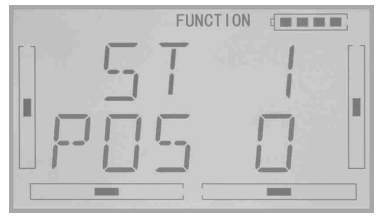
(5) Automatic setting

The default setting is to use the D/R switch, however, it is possible to adjust the Rate and Expo settings automatically based on the Flight Mode. The four positions, POS0-3, described earlier can be assigned as desired to the four available flight modes, NORMAL, STUNT 1, STUNT 2 and THROTTLE HOLD. Each of the positions can have different D/R or EXPO settings.

The Flight Mode switch (shown left) controls which DREXP setting is used. If you wish to have a specific setting when THROTTLE HOLD is active it's important that the THROTTLE HOLD function is in the ACT (active) state. See section 3.5 Throttle Hold below for instructions.

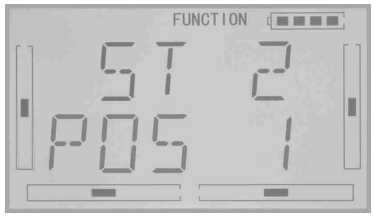
(6) After the values for DR and EXPO have been entered for each POS setting as desired, the POS setting is then applied to the Flight Mode. Using DN shows first NORM then ST 1, ST 2 and THHLD and the current setting. Use R and L to alter the POS setting for each flight mode in turn or to return to the default SWITC (switch) setting.

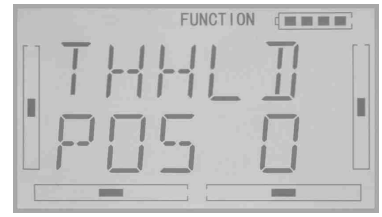
After selecting the POS value for NORM, press DN to show the value for ST 1. Use R and L to select as above.



After selecting the POS value for ST 1, press DN to show the value for ST 2. Use R and L to select as above.

If Throttle Hold is active, THHLD will also appear in the options after pressing DN from ST 2. Use R and L to set as before.

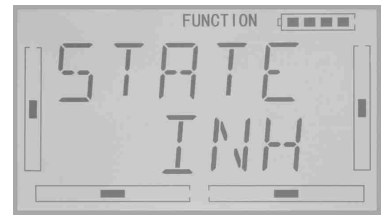




Press EXT to exit.

3.5 Throttle Hold(THHLD)

If the throttle hold function is activated in the function settings menu, it can be operated by the Throttle Hold switch as shown in the picture below. The permitted setting range is from -20.0% to 50.0%. The default setting is INH (inhibited).



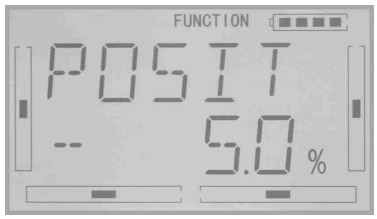
Setting method:

Enter the Function menu as described earlier, select the THHLD submenu using UP/DN and ENT. The options available for THHLD setting are INH (inhibited), ACT (active), use R and L to select.

With THHLD set to ACT, the ThrWith THHLD set to ACT, the Throttle Hold Position setting will be displayed by pressing DN.

(1) “Throttle Hold Position” setting

Throttle Hold is activated, press DN to enter the interface as below:



Use R and L to change the Hold value. The minimum value is -20.0%, the maximum value is +50.0%. When the Throttle Hold Switch HOLD is to the back, the throttle is controlled by the stick. When the HOLD switch is forward (towards the pilot) the HOLD value is active. The throttle stick has no effect.

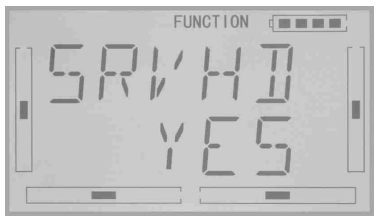
Press EXT to exit when finished.

CAUTION: An incorrect HOLD value can cause the rotor to begin turning automatically even when stick and trim is at the minimum position. Be sure to set the value correctly. To prevent injury or damage it is recommended to remove the main and tail rotor blades when testing the setting.

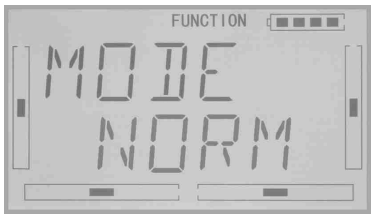
CAUTION: Turning off Throttle Hold in ST 1 or ST 2 or when the stick and trim is not at 0 may cause the rotor to turn unexpectedly. Please make sure to return stick and trim to zero and flight mode to NORM before turning off THHOLD.

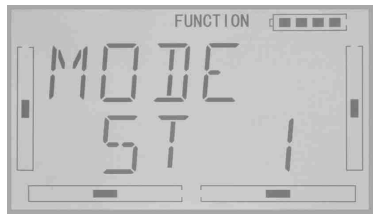
3.6 Throttle Curve(THCRV)

Enter the Function menu and select THCRV submenu using UP/DN and ENT. Upon entering, SRVHD: YES is displayed, use R or L to select YES/NO and press ENT to confirm servos hold option. Selecting YES deactivates the control sticks, selecting NO means the sticks are still active as normal.



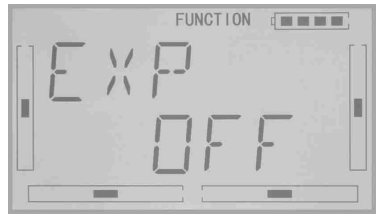
After confirming SRVHD, the MODE selector is shown. Use R or L to select the flight mode curve you wish to change. Options are NORM, ST 1 and ST 2. The three curves can be set independently of each other.

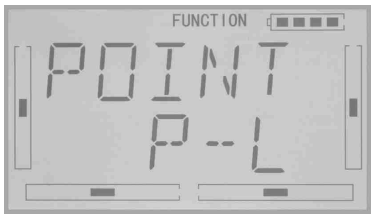


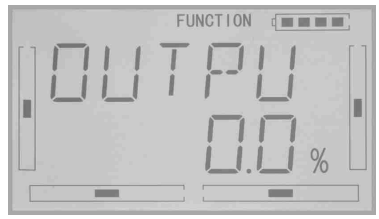


After selecting the flight mode curve, press DN to display the Expo setting, use R or L again to enable or disable Expo. Enabling Expo smooths the curve if the points are non-linear and maybe useful for beginners.

Pressing DN once more displays the point selector. Use R or L to select one of the seven points, L, 1, 2, M, 3, 4 and H. Press DN again and then use R and L to set the desired value for that point .







Once the value is set as required, press UP to go back to POINT selection. Use R and L to select the next point to change, press EXT to exit when finished.

3.7 Mix to Throttle(MIXTH)

The Mix to Throttle function is designed to permit the main rotor speed to remain constant despite a change in load when operating the aileron, elevator or rudder. Generally, it is not advised to use this function except when stunt flying.

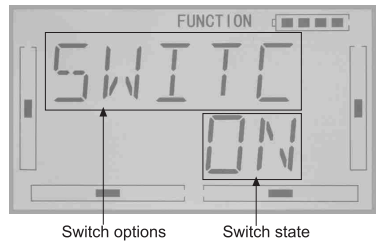
Setup:

Enter the Function menu and use UP/DN to select MIXTH. Pressing ENT will display the selected channel, ELEV first, then AILE and RUDD channels can be selected using R/L.

(1) Channel setting

Use R or L to select the channel you wish to setup. ELEV is used as an example here.

Once the channel has been selected, press DN to display the SWITC status as shown below.

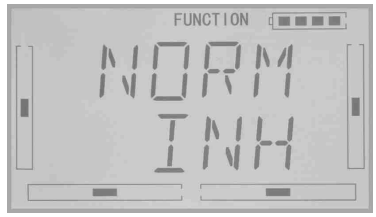


(2) Switch option

Press ENT to display the current setting of SWITC. The available options are, ALLON (always on), NOR (normal mode), ST1 (stunt 1), ST2 (stunt 2), GEAR.

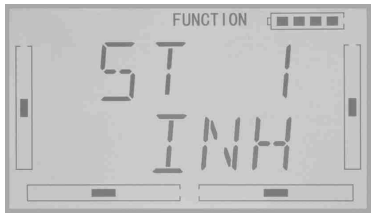
ALLON (always on): When set to ACT (active) the Mix settings will always be in effect. The default setting is INH (inhibited). When set to ACT, it overrides the individual settings for NORM, ST1, ST2 and GEAR.

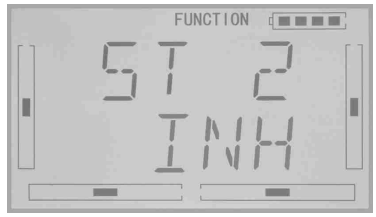
NORM (normal mode): When set to ACT (active) the Mix settings will be in effect in NORM mode. The default setting is INH (inhibited).



Press DN once again to display the setting for ST1 mode, use R or L to set ACT or INH. Press DN and repeat for the ST2 and GEAR switch modes.

After setting ST1(stunt1) option, press DN to enter ST2 (stunt2) switch setting interface, press R or L to set switch activated or inhibited.

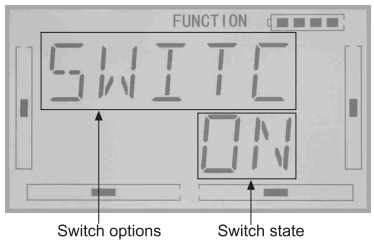




After setting ST2(stunt2) option, press DN to enter GEAR switch setting interface, press R or L to set switch activated or inhibited.

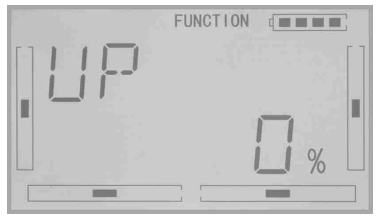
(3) UP setting

After setting the SWITC option which determines when the MIX settings should be active press EXT to exit back to the SWITC setting status display as shown below.



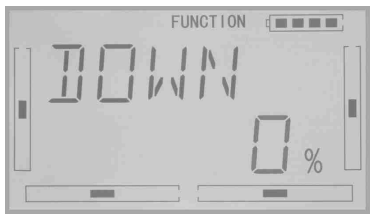
Press the DN button to show the current setting for UP (i.e. when ELEV channel input is increased to fly forward).

Use L or R to increase or decrease the MIX value setting.A positive MIX value means that as ELEV channel output value is increased (when flying forward), the THRO value will also be increased automatically.A negative MIX value means that as ELEV channel output value is increased (when flying forward), the THRO value will be decreased automatically. The available range of adjustment is ±125%.



(4) Down Setting

Once the values for UP are set press DN to show the current MIX setting for DOWN (ELEV input to fly backwards).



Use L or R to increase or decrease the MIX value setting.A positive MIX value means that as ELEV channel output value is decreased (when flying backwards), the THRO value will also be increased automatically. A negative MIX value means that as ELEV channel output value is decreased (when flying backwards), the THRO value will be decreased automatically. The available range of adjustment is ±125%.

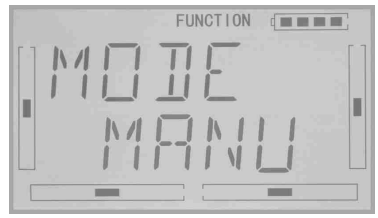
(5) The setting method is the same as above when “Channel” option displays “Aileron” or “Rudder”. Press EXT to finish.

Tips:(1) Please make sure the above setting value for Mix & Throttle is good for ideal flight and the action in various flight modes are as required.

(2) This function is overridden when governor mode is active.

3.8 Gyro sensitivity (GYRO)

Enter the Function menu and use UP or DN to select GYRO. Press ENT to display the current MODE status. Use R or L to toggle between AUTO (automatic) or MANU (manual) settings.



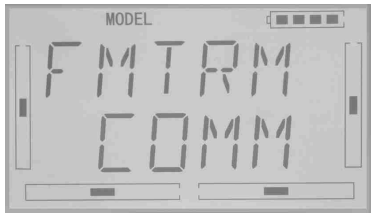
(1) Manual Setting

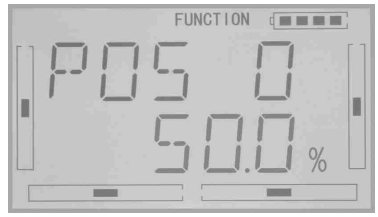
Choosing MANU and then pressing ENT shows the SWITC status. This indicates the switch to which GYRO sensitivity settings are assigned. Default is MIX.

Pressing DN displays the switch position and assigned GYRO value. The first POS setting displayed is POS 0, pressing DN again displays POS 1 and then POS 2. To change the value use the R or L buttons.

The GYRO has two modes of operation; AVCS or NOR. When the value is set greater than 50% AVCS will be activated. AVCS is also knows as Heading Hold or HH gyro. The bigger the value the bigger the gyro sensor heading gain becomes, or the harder it tries to maintain the heading.

NOR mode, also known as RATE mode, is activated by setting the value to less than 50%. The smaller the value the greater the gyro sensor rate gain becomes, or the harder it tries to maintain a constant YAW rate.





Once POS 0 is set as desired, use DN to set POS 1 and POS 2 settings as required. Typical values are POS 0 = 75%, POS 1 = 70% and POS 2 = 20%. Default values are all 50%.

(2) Automatic setting

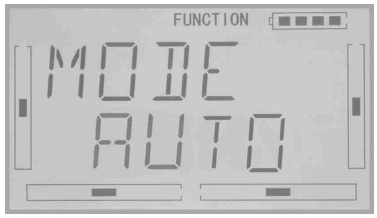
For Automatic setting, choose AUTO in the GYRO MODE option menu. This will automatically assign a GYRO value based on the FLIGHT MODE setting; NORM, ST1, S T2, HOLD.

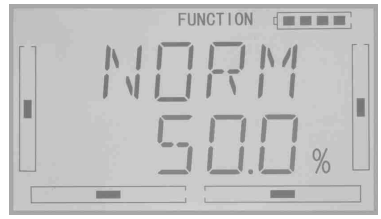
Press R or L to choose AUTO under MODE option interface.

Pressing DN displays the FLIGHT MODE setting and assigned GYRO value. The first setting displayed is NORM, pressing DN again displays ST 1, then ST 2 and finally THHOLD. To change the value use the R or L buttons.

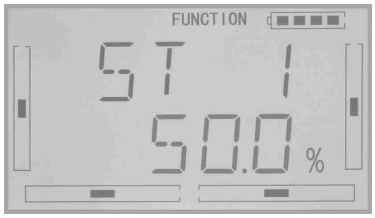
NOR mode, also known as RATE mode, is activated by setting the value to less than 50%. The smaller the value the greater the gyro sensor rate gain becomes, or the harder it tries to maintain a constant YAW rate.

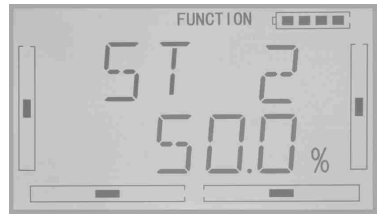
The GYRO has two modes of operation; AVCS or NOR. When the value is set greater than 50% AVCS will be activated. AVCS is also knows as Heading Hold or HH gyro. The bigger the value the bigger the gyro sensor heading gain becomes, or the harder it tries to maintain the heading.





Use DN to display the ST 1, ST 2 and HOLD settings. Adjust using R or L as described above.



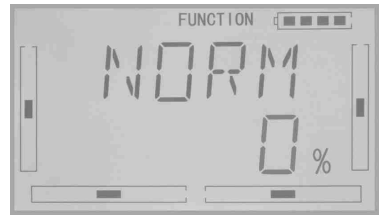


3.9 Governor(GOVER)

To setup Governor, the Governor needs to be active under the Device Output menu (Refer to section 2.9 Device Output).

The Governor function is a feature which, when enabled, automatically tries to maintain a constant main rotor speed. It is possible to setup different Governor settings for each flight mode. On the transmitter, the display is a percentage for reference/adjustment, the actual rotation speed is set by the governor.

Enter the Function menu and select GOVER. Press ENT and use DN button to show the current GOVER status for NORM, ST 1, ST 2 and THHOLD flight modes.



(1) NORM setting

The setting for NORM flight mode is shown below. Use R or L to change the value. Use R to decrease, L to increase. The available adjustment range is from -125% to +125%.

(2) ST1, ST2 and THHOLD settings

After completing NORM governor value setup, use DN to select the next flight mode and repeat the process as required as shown below.

(3) THHLD setting

NOTE: The Throttle Hold function must be active for the THHOLD setting to operate correctly. Please refer to section 2.8 for instructions on how to enable it.

Press EXT to finish.

3.10 Swash Mix(SWHMX)

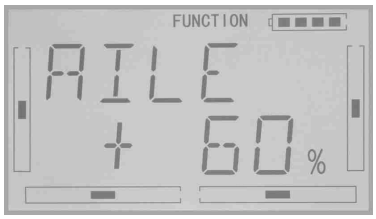
This function permits the flight adjustment of swashplate behavior. It is only active when the swashtype is 2 servos or more (refer to section 2.10 swash type).

Setting Method:

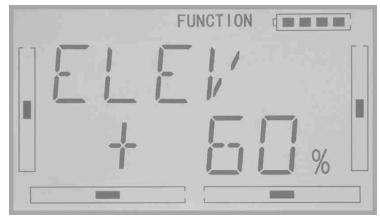
Enter the FUNCTION menu and select SWHMX. Press ENT to display the first of the available channels for adjustment and it's current setting value. When swash type is set to 3 servos 120°, four options are available, ELEV, AILE, PITCH and EXP.

(1) Aileron Mix Adjustment

In the SWHMX submenu the first adjustment channel displayed is AILE. User R or L buttons to reduce or increase the value. If the mix direction needs to be reversed, use the R button to decrease the value until the + sign before the value changes to -. The total permitted adjustment range is -125% to +125%.



(1) Aileron Mix Adjustment



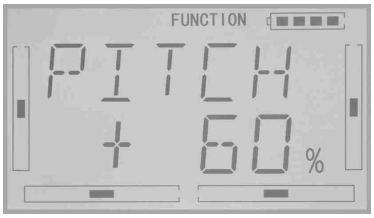
(2) Elevator Mix adjustment

(2) Elevator Mix adjustment

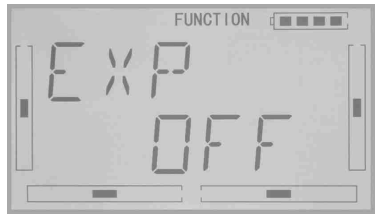
When Swash Type is set to 3 servos or more (refer to section 2.10 Swash Type), pressing DN while in AILE setting will display the current ELEV setting. Use the same method as AILE to input the desired value.

(3) Pitch Mix Adjustment

When Swash Type is set to 2 servos or more (refer to section 2.10 Swash Type), pressing DN once more will display the current PITCH setting. Use the same method as AILE/ELEV to input the desired value.



(3) Pitch Mix Adjustment



(4) Exponential Curve

(4) Exponential Curve

When the function is ON, the dual rate is adjustable in the “Dual rate and exponential” under “function menu”.

Setting Method:

After completing the PITCH mix setting, press DN again to display the current EXP setting. Use R or L to toggle between ON and OFF. The default setting is OFF, but the recommended setting is ON.

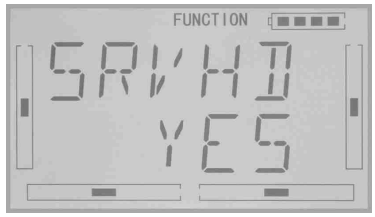
Use EXT to exit once all settings are completed.

3.11 Pitch Curve(PTCRV)

Pitch curves control the angle of the main rotor blades and thus change the amount of lift generated by the rotor. The pitch curves can be adjusted using up-to 7 individual points. Each flight mode, NORM, ST1, ST2, THHOLD can have it's own unique pitch curve.

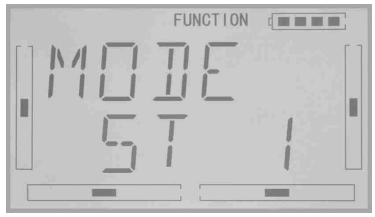
Setup Method:

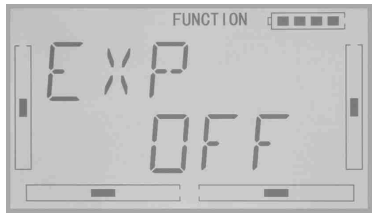
Access the FUNCTION menu and select PTCRV. Upon pressing ENT, the servo hold option will be displayed, use R or L to toggle between YES or NO and press ENT to confirm.



Selecting YES means that stick movements or curve changes on the transmitter are not sent to the receiver. Selecting NO means that stick movements or curve changes are transmitted to the receiver.

There are “normal flight”, stunt flight 1, stunt flight 2 and “throttle hold” 4 flight modes.The curve of each flight mode can be set respectively.

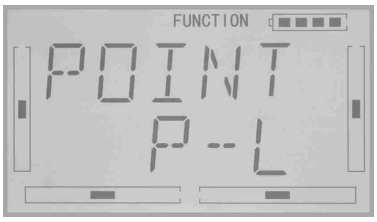


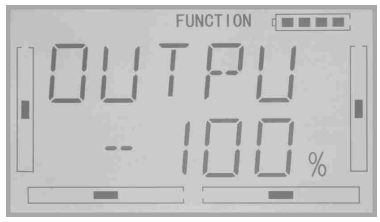


After confirming the servo hold setting the flight mode selection is displayed as shown above. Use R or L to change to the desired flight mode (NORM, ST1, ST2 or THHLD). Press DN to display the current EXP (expo) status setting, use R or L to toggle ON or OFF. Enabling Expo smooths the curve if the points are nonlinear and maybe useful for beginners.

Pressing DN once again displays the POINT selection submenu. Use R and L to select one of the 7 setting points from L, 1, 2, M, 3, 4, and H. Press DN again and use R and L to set the desired PITCH value for that point. Press UP to return to the POINT selection submenu, select the next point to be changed and repeat the process for each point.

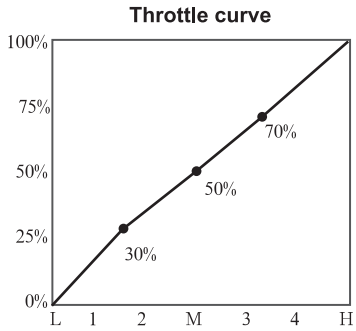
Press EXT to exit after all points have the required value.

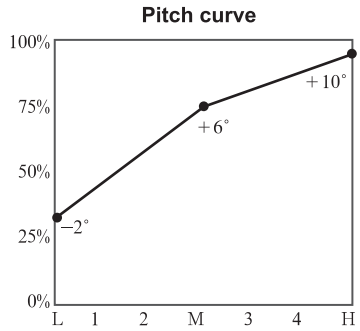




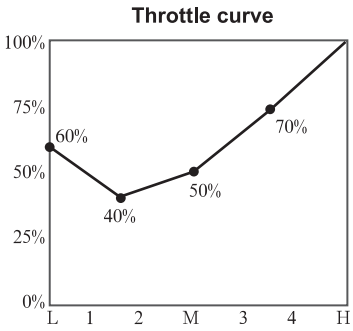
The examples shown below are for reference only. Adjustment and measurement must be made before flight.

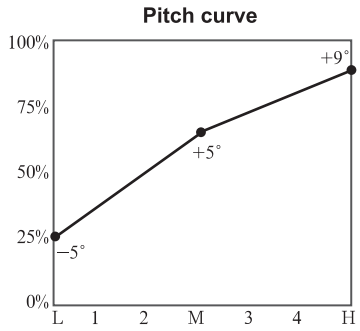
Normal flight



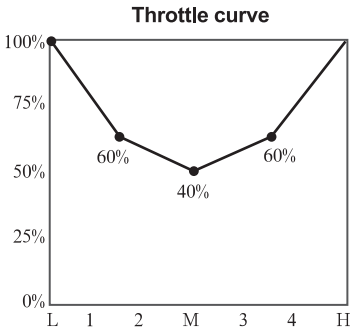


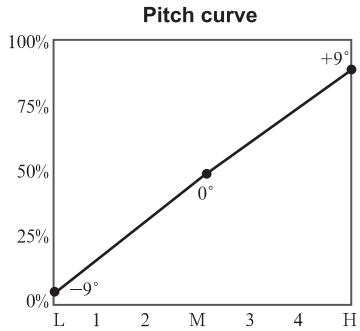
Flight Mode ST1



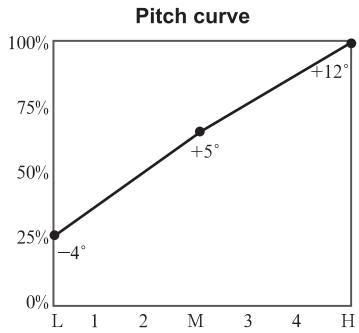


Flight Mode ST2





Flight Mode THHLD
(for Auto-rotation landing)

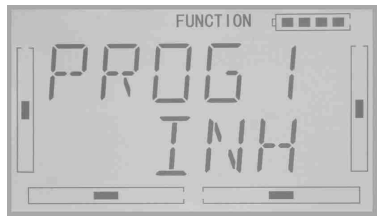


3.12 Program Mix(PRGMX)

The DEVO-7 features 8 Program Mix memories. Mix channels and mix values are customizable.

Setting Method:

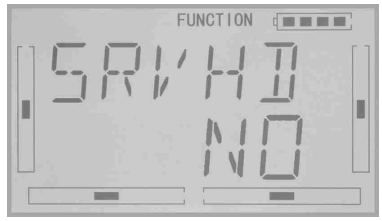
From the FUNCTION menu select PRGMX. Press ENT to display the current activation status for the PROG1 memory. Default status is INH (inhibited), use R or L to select between the 3 options, inhibited, normal or curve.



Using PROG1 (Program Mix 1) memory as an example.

(1) NORM (normal) setting of Program Mix

With PROG 1 displayed as shown, use R or L buttons to select NORM. Press ENT to confirm and select the SRVHD (Servos Hold) option, using R or L to toggle between YES and NO. Selecting YES locks the current servo position, NO allows the servos to move. Confirm with ENT.



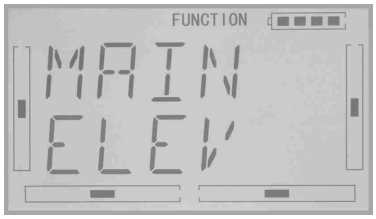
After pressing ENT, the setup interface is displayed. The adjustments available include Main Channel, Slave Channel, Gain, Offset and Switch .

(1.1) Selecting the main channe l

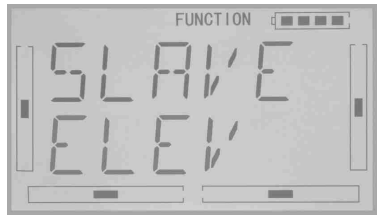
As shown below, use R or L to select the main channel from the available options: ELEV, AILE, THRO, RUDD, GEAR, PITCH, AUX2, OELEV, OAILE, OPITC, ORUDD, PELEV, PAILE, PTHRO, PRUDD and FMOD.

(1.2) Selecting the slave channel

After setting the main channel, press DN to move to the slave channel selection. Use R and L again to select from ELEV, AILE, THRO, RUDD, GEAR, PITCH and GYRO.



(1.1) Selecting the main channe l



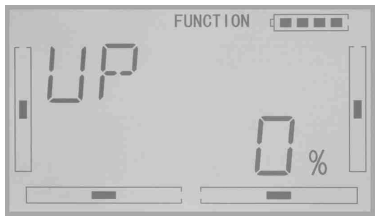
(1.2) Selecting the slave channel

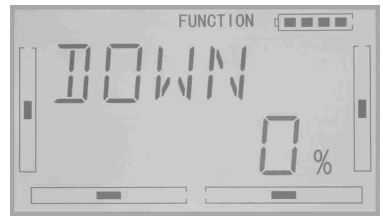
(1.3) Setting the Gain

Once Main and Slave channels have been set, press DN to display the Gain setting. The gain setting controls the slave channel output in proportion to the main channel setting. A higher gain value will result in a greater change in output. A negative gain setting will result in a change in the opposite direction with respect to the main channel.

(1.3.1) Mix amount setting when elevator stick moved upward:

Press R to decrease the mix amount and press L to increase. It is possible to reverse mix direction by pressing R or L button to change the plus or minus sign in front of the amount. The adjustable range is ±125%.





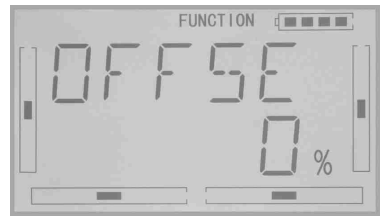
(1.3.2) Mix amount setting when elevator stick moved downward:

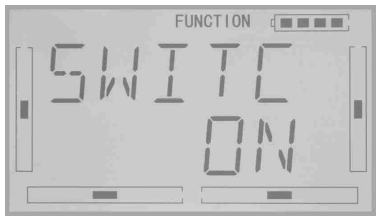
Press DN button after the previous setting is finished. Press R to decrease the mix amount and L to increase. It is possible to reverse mix direction by pressing R or L button to change the plus or minus sign in front of the amount. The adjustable range is ±125%.

(1.3.3) Offset Setting:

Using the Offset function it is possible to apply a slave channel correction even at the 0 position on the main channel. It is also possible to enable or disable the Offset based on a designated switch position.

Press DN after setting 1.3.2 to display the Offset setting value. Use R and L as before to set the desired value. The permitted adjustment range is -100% to +100%.



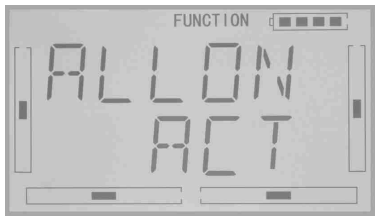


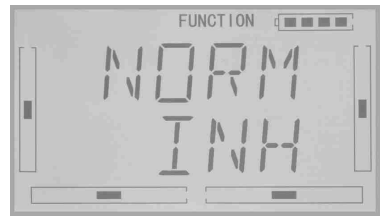
(1.4) Switch selection

Press DN again after setting the Offset, SWITC : ON is displayed. Press ENT to enter the switch selection sub-menu. By default ALLON : ACT is displayed, meaning that the PROGMIX is always active. Pressing DN displays the list of alternative switches which can be used to activate the PROGMIX. The permitted choices are NORM, ST 1, ST 2, D/R, HOLD and GEAR.

ALLON (always on): If all other options are set to INH then ALLON is ACT (active). If any of the other settings are set to ACT, ALLON is automatically set to INH. When ALLON is displayed, the setting cannot be changed using R or L. This is normal and correct behavior .

After checking the status of ALLON, press DN to access the individual switch settings. First is NORM, use R or L to toggle between INH and ACT. If NORM is set to ACT then press UP, ALLON now displays INH.





Use DN to access the other switch settings NORM, ST 1, ST 2, D/R, HOLD and GEAR in turn. Use R or L to toggle INH or ACT as required.

Once all settings are set as desired press EXT to exit.

(2) The CURVE setting of Program Mix

From the FUNCTION menu select PRGMX using ENT as described in the section for NORM setting of program mix. When the PROG# memory is displayed, use R or L to toggle between INH and ACT. Set to ACT (active) and press ENT to confirm.

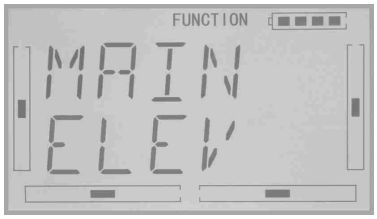
With PROG 1 displayed as shown, use R or L buttons to select CURVE. Press ENT to confirm and select the SRVHD (Servos Hold) option, using R or L to toggle between YES and NO. Selecting YES locks the current servo position, NO allows the servos to move. Confirm with ENT.

(2.1) Selecting the main channe l

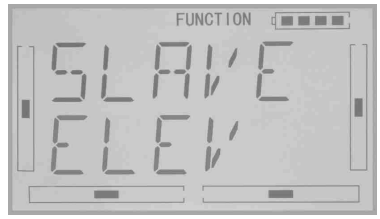
As shown below, use R or L to select the main channel from the available options: ELEV, AILE, THRO, RUDD, GEAR, PITCH, AUX2, OELEV, OAILE, OPITC, ORUDD, PELEV, PAILE, PTHRO, PRUDD and FMOD.

(2.2) Selecting the slave channel

After setting the main channel, press DN to move to the slave channel selection. Use R and L again to select from ELEV, AILE, THRO, RUDD, GEAR, PITCH and GYRO.



(2.1) Selecting the main channe l



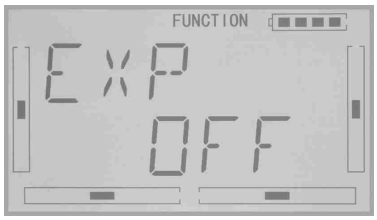
(2.2) Selecting the slave channel

(2.3) Exponential curve

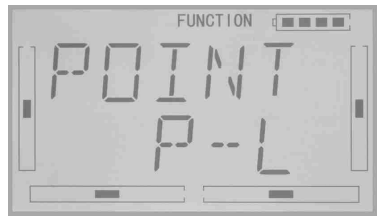
After setting the slave channel, press DN to move to the EXP setting. Use R and L again to toggle between ON and OFF. Using EXPO: ON smooths the curve, EXPO: OFF does not.

(2.4) Point setting

Pressing DN will display the POINT selector. Use R or L to select any of the 7 points, from L, through 1, 2, M, 3, 4 to H. Press DN to display the current setting for the selected point.



(2.3) Exponential curve



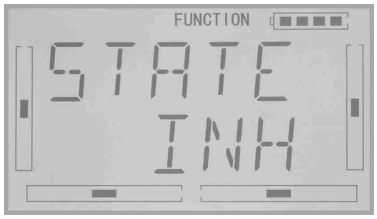
(2.4) Point setting

(2.5) State setting

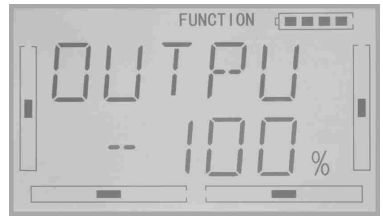
For points 1, 2, M, 3 and 5, an additional setting, STATE, is displayed. Use R or L to toggle between INH (default for 1, 2, 3, 4) or ACT (default for M). When INH(inhibited) is selected, there is no further option. If ACT is selected then pressing DN displays the Output setting.

(2.6) Output setting

The images below show the settings. For output, the value can be adjusted between the range of -100% to +100%. Use R to decrease the value, use L to increase it. The active direction can be reversed by changing the plus or minus sign in front of the value using R or L buttons.



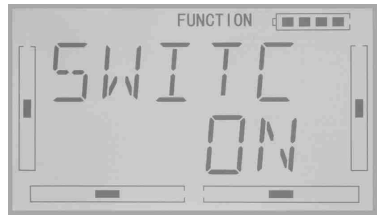
(2.5) State setting



(2.6) Output setting

(2.7) Switch selection

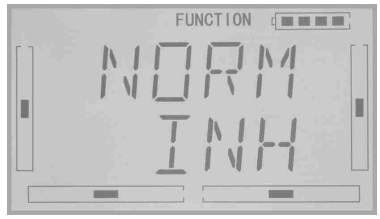
Press DN again after setting the OUTPU value, SWITC : ON is displayed. This setting cannot be changed using R or L. This is normal.



Press ENT to enter the switch selection sub-menu. By default ALLON : ACT is displayed, meaning that the PROGMIX is always active. Pressing DN displays the list of alternative switches which can be used to activate the PROGMIX. Thepermitted choices are NORM, ST 1, ST 2, D/R, HOLD and GEAR.

ALLON (always on): If all other options are set to INH then ALLON is ACT (active). If any of the other settings are set to ACT, ALLON is automatically set to INH. When ALLON is displayed, the setting cannot be changed using R or L. This is normal and correct behavior.

After checking the status of ALLON, press DN to access the individual switch settings. First is NORM, use R or L to toggle between INH and ACT. If NORM is set to ACT then press UP, ALLON now displays INH.

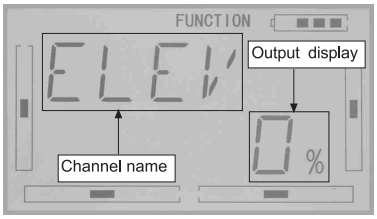


Use DN to access the other switch settings NORM, ST 1, ST 2, D/R, HOLD and GEAR in turn. Use R or L to toggle INH or ACT as required.

Once all settings are set as desired press EXT to exit.

3.13 Monitor(MONIT)

The monitor function allows the pilot to monitor the outputs of each transmitter channel.



From the FUNCTION menu, select MONIT. Press ENT and the channel name is displayed and below is the current output value.

Use R or L to cycle through all the available channels. Moving the sticks should change the output value displayed.

Use EXT to exit.

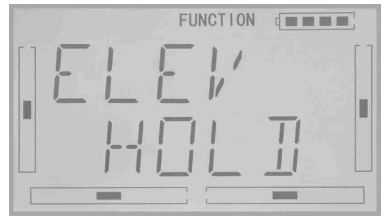
3.14 Fail safe(SAFE)

Two options exist if the receiver loses the connection with the transmitter; the first is HOLD - keep the last action data received, the second is to use a pre-set failsafe value. The default setting is HOLD.

Setup method:

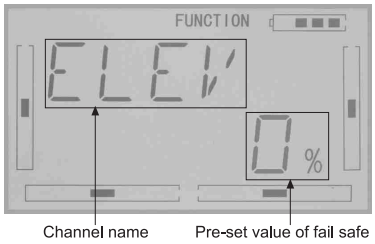
From the FUNCTION menu select SAFE. After pressing ENT the failsafe operation mode can be selected using R or L to toggle between HOLD and SAFE options. The default option is HOLD.

If SAFE is selected, keep pressing DN to display the 7 transmitter channels in turn, ELEV, AILE, THRO, RUDD, GEAR, PITCH, GYRO.



On above interface, press R or L to selet keep or fail safe. If selecting keeping,locking the last dated received; If selecting fail safe, to execute the pre-set date which is pre-set. The default setting is Servo Hold.

Press R to SAFE, press DN to enter fail safe date interface



Use R or L to input the value which should be used as the failsafe output value. 0% is the same as mid-stick, no trim. To increase or decrease the servo position, set the failsafe value between -125% and +125%.

Use DN to setup the next channel.

The setting process is the same for all the channels. Use EXT to exit when finished.

NOTE: If the helicopter enters a failsafe mode for any reason power should be disconnected from the Heli and it must be thoroughly checked over before flying again. Using 100% throttle after a failsafe event may be dangerous and cause injury or damage.

3.15 Trainer(TRAIN)

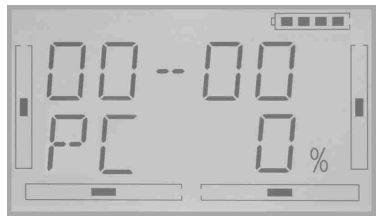
To help the beginner pilot it is possible to make two DEVO-7 transmitters operate together using a training function. The training function permits the teacher to limit or override the controls of the trainee. The instructions for using the training function are below:

(1) Data copy

The first step is to copy the model settings from the teacher's DEVO-7 to the trainee's DEVO-7, this guarantees that the model data in both transmitters is identical. To do this refer to the copy method as described in Helicopter setup section "2.4 model wireless copy". Once completed, follow the steps below:

(2) Connection

First, insert the signal wire (supplied) into the DSC socket of the trainee's transmitter. Turn on the trainee's transmitter and the display will alternate between showing PC (data connection mode) and the model name (MOD), see image (right).



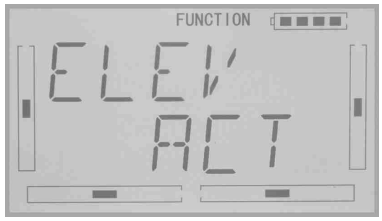
Linkage Display

Next, turn on the Trainer's DEVO-7. Select the newly copied model data using the MODEL menu. Bind to the aircraft and make a small test flight to confirm the aircraft is operating normally. Turn off the power and insert the digital signal wire into the trainer's DEVO-7 DSC port. Turning back on the power will automatically put the DEVO-7 into training mode.

(3) Training channel setup

The trainer is able to limit the number of channels that the trainee has control over via the training menu on the DEVO-7.

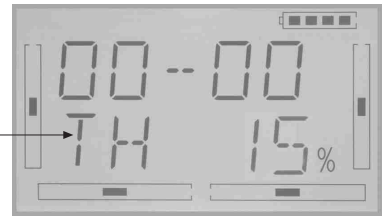
Enter the FUNCTION menu and use the DN key to select the TRAIN sub-menu, press ENT. Use UP or DN keys to select the control channel, use R or L to toggle between INH (do not permit trainee access) and ACT (trainee is permitted to control this channel). Press EXT to exit when finished.



(4) Usage

The training switch is on the top left corner of the DEVO-7, marked HOLD/TRN, as shown in the image below:

The throttle output of the trainee's radio is displayed when training



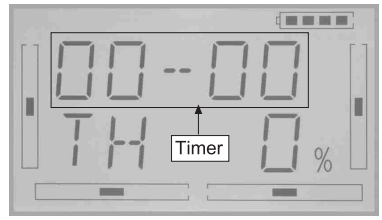
During flight, if the trainer moves the switch into the TRN position control will be passed to the trainee. On the trainer's DEVO-7 screen, the output from the trainee's DEVO-7 is displayed. If the trainer operates the TRN switch once again, the trainer regains full control of all aircraft functions .

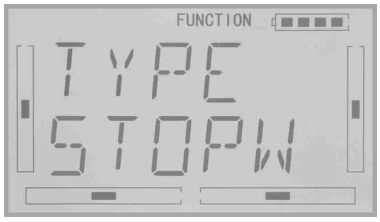
3.16 Timer(TIMER)

There are two timers on the DEVO-7, stopwatch and countdown timer. These timers are activated by the UP button in normal DEVO-7 operation mode.

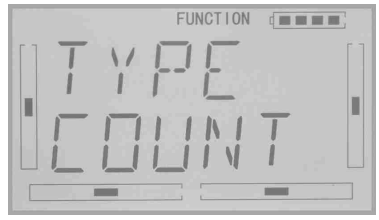
Setting method:

Enter the FUNCTION menu and select TIMER, press ENT. Use R or L to toggle between Stopwatch mode or Countdown mode.





Stopwatch interface



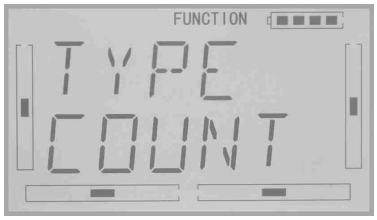
Countdown interface

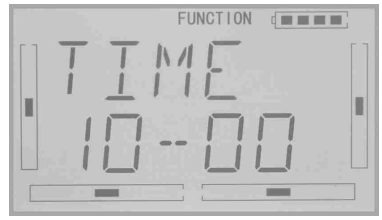
(1) Stopwatch setting

If TYPE is set to stopwatch as shown right, there are no other values to be set. Press EXT to exit. The operating range of the stopwatch is 59 minutes 59 seconds.

(2) Countdown setting

Use R or L to chance from STOPW to COUNT. Press DN to display the starting value of the countdown timer. Use R or L to increase or decrease the timer value in 5 second intervals. The permitted range is from 00:05 (5 seconds) to 59:55 (59 minutes, 55 seconds). Press EXT to exit.

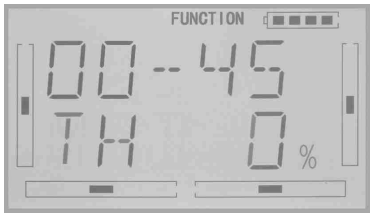




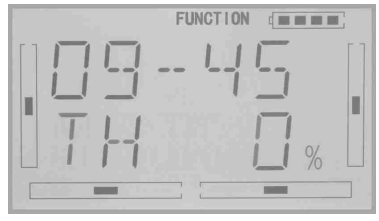
Press DN on above interface to enter countdown.Press R or L to set countdown. The countdown rang of is from00:05-59:55.

(3) Usage

Use the UP key to start and stop the timer. Use DN to reset the timer.



Stopwatch interface



Countdown interface

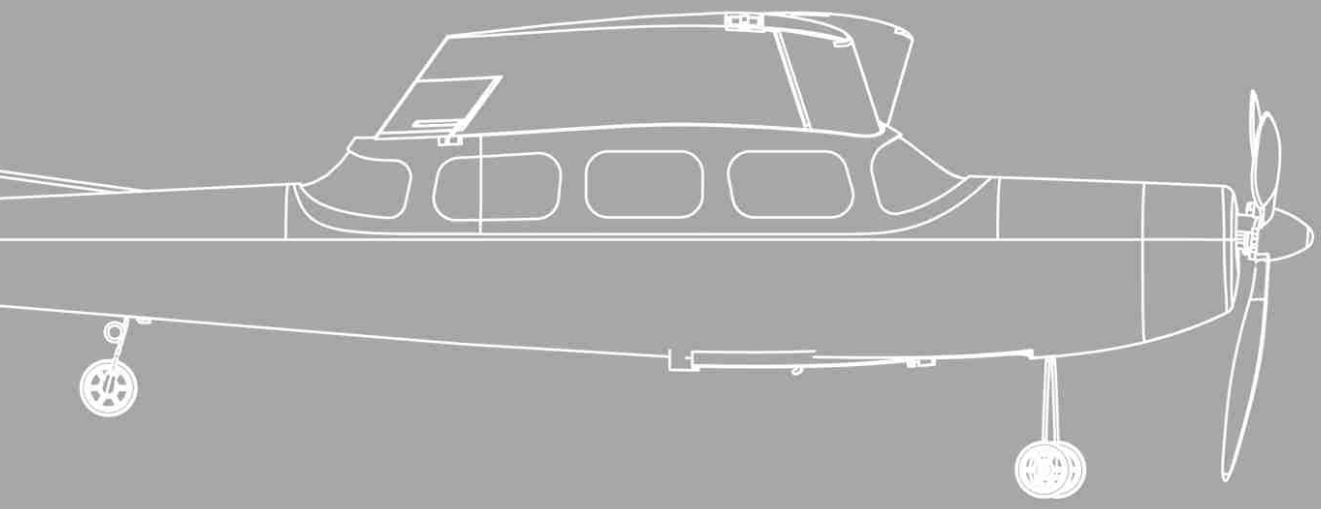
deVention

DEVO 7

Part three Airplane

All the functional settings, which are relative to the operation system of DEVO-7 itself, are fully integrated in System Menu. They include Display, Buzzer, Stick Mode, Stick Calibration , and About.

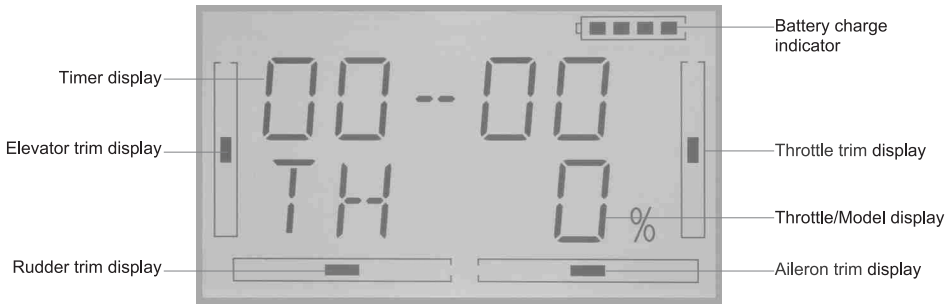
Setup your DEVO-7 transmitter for the best Airplane performance with the following sections. Included are specific functions for fixed wing features; Flaps and Servo Balancing are covered below.



1.0 System Menu

This section describes the settings which are specific to the operation of the DEVO-7 itself. Settings for Display, Buzzer, Stick Mode, Stick Calibration and About (Firmware) can all be accessed via the System menu.

The boot screen of airplane is shown as below:

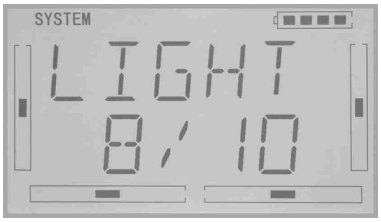


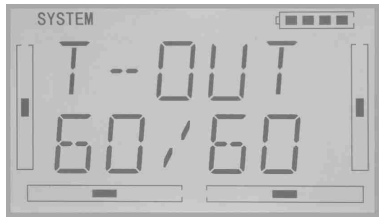
1.1 Display(DISPL)

(1) Backlight intensity: the backlight intensity is adjustable using the up or DN buttons. Power consumption will be increased when intensity is high and battery life will be reduced.

(2) Backlight timeout: the duration for which the LCD stays lit can be configured from 5 to 60 seconds in 5 second intervals or set to "Always On".

Setting: Press "ENT" button to enter the main menu. Press UP or DN buttons until "SYSTEM" starts to flash, press "ENT" to enter into the System sub-menu. Use UP or DN until a flashing "DISPL" is shown, press "ENT". Use UP or DN to show "LIGHT" and use R or L to change the setting as desired.





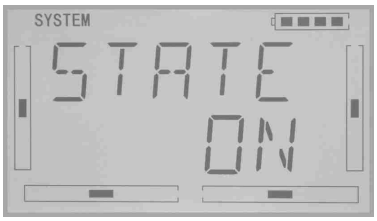
Press DN to enter the Backlight time-out setting, use R or L to adjust the period up to 60 seconds, using a setting of 0 means always on. Press ENT to confirm and EXT to exit to main menu.

1.2 Buzzer Setting(BUZZE)

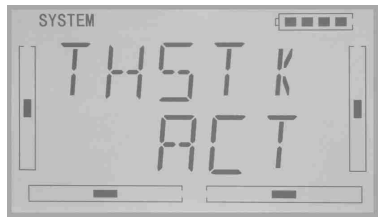
(1) [SYSTEM/BUZZE/STATE] Buzzer ON/OFF: Press ENT button to enter the main menu, press ENT again while "SYSTEM" is flashing. Use UP and DN until flashing "BUZZE" is displayed and press ENT. When "STATE" is shown, press R or L to toggle between ON and OFF settings. Press ENT to confirm and EXT to exit.

(2) SYSTEM/BUZZE/THSTK] Throttle stick: under the Buzzer setting menu the option THSTK can be set to ON or OFF. If the Throttle Stick setting is ON/Active, a musical scale will be heard when moving the throttle stick. The position of the throttle stick can be judged by listening to the change in musical tone. Setting OFF, turns off the sounds.

After setting the [BUZZE\STATE] setting, press DN until THSTK is displayed. The current status is displayed, use R or L to change the display between INH and ACT. ACT means tones will be played, INH means there will be no tones played.



(1) (STATE)Buzzer switch



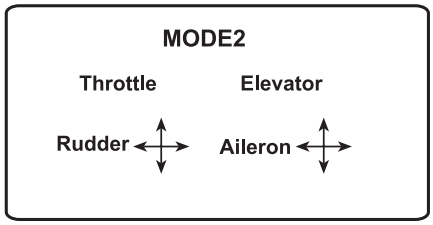
(2) (THSTK)Throttle stick

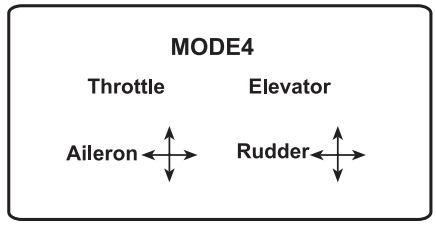
(3) [SYSTEM/BUZZE/TONE] Buzzer tone: the buzzer tone can be selected from 10 notes. You can set the tone according to your preference. After setting the "THSTK", press DN until "TONE" is displayed. Use R or L key to change the flashing value between 1 and 10.

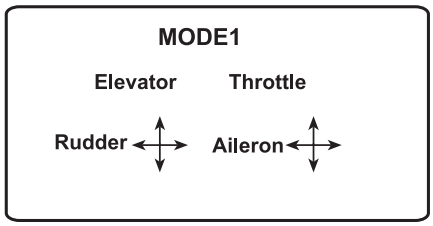
Press EXT button to exit when finished.

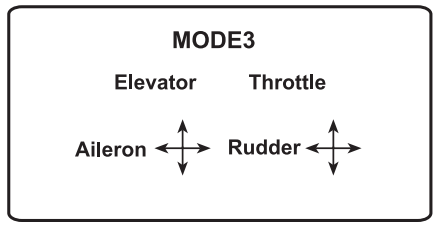
1.3 Stick Mode(STMOD)

There are 4 stick modes including MODE1, MODE2, MODE3 and MODE4. Right-hand throttle includes MODE1 and MODE3; while left-hand throttle includes MODE2 and MODE4. See Below:









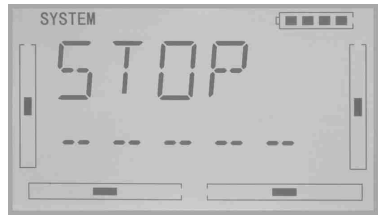
[SYSTEM/STMOD] Stick Mode: from the SYSTEM menu, press UP or DN until flashing "STMOD" is displayed, press ENT again to enter the stick mode selection sub-menu. Use R or L to select the required stick mode. Press ENT to confirm the flashing value and EXT to exit to the main menu.

1.4 Stick Calibration(CALIB)

Enter the SYSTEM menu and use UP or DN until "CALIB" is shown flashing in the display, press ENT to enter the calibration sub-menu. Pressing ENT again will start the calibration process. The display will be as shown below:

Stick calibration: Move all of the control sticks to their maximum and minimum levels several times, when complete, return the sticks to their neutral positions.

Press ENT again to STOP the calibration process and the display should show "START: SUCCESS".



If the display shows "STOP:ERROR", the calibration has failed. Please go back to the STMOD sub-menu using EXT and re-start the calibration process.

Press EXT button to exit after finished.

1.5 About(ABOUT)

From the SYSTEM menu, use UP or DN until a flashing "SOFT" is displayed, press ENT again and the firmware version will be displayed.

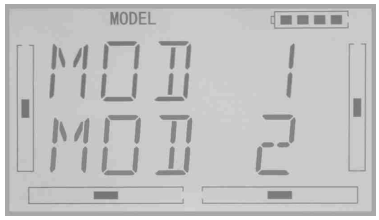
Press EXT to exit when finished.

2.0 Model Menu

Model Menu manages all the model data saved in DEVO-7. It includes Model Select, Model Name, Model Copy, Model Transmit, Model Receive, Model Reset, Type Select, Trim System, Device Select, Device Output, Wing Type, Power Amplifier and Fixed ID.

2.1 Model Selection(SELEC)

Press “ENT” button to enter Main Menu, press UP or DN until “MODEL” starts to flash, then Press “ENT” button to enter Model Menu; Press UP or DN until “SELEC” starts to flash and then press “ENT”key to view model options.



Press UP or DN until the desired model starts to flash. A total of 15 model configurations can be stored. Press ENT to confirm then EXT to exit.

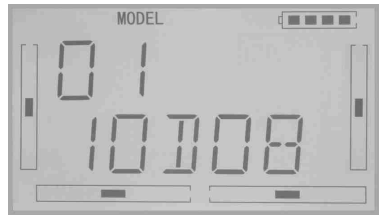
2.2 Model Name(NAME)

In the model name menu, you can edit the model name to 5 characters of your own choosing to simplify configuration selection next flight session.

First, follow step "2.1 Model Selection" to choose the model you want to rename or edit.

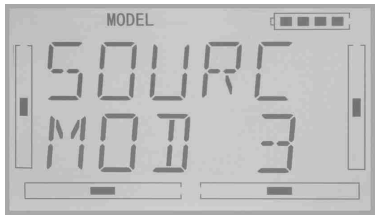
Press ENT to enter the Main Menu, use UP and DN to select MODEL, press ENT to enter Model sub-menu, press UP or DN until "NAME" is flashing in the display. Press ENT again to display the serial No. (1~15) and current name.

Use UP and DN to select the characters to be changed, use R or L to change the selected character. Press ENT then EXT to finish.



2.3 Model Copy(COPY)

Press ENT to enter the Main Menu, use UP and DN to select MODEL, press ENT to enter Model sub-menu, press UP or DN until "COPY" is flashing in the display. Press ENT again to select the source Model. Use R and L to change the selected model.



Press ENT to confirm the destination model into which to copy the current settings. " RUN:NO" will be displayed, use R or L to change to "RUN:YES".

Press ENT to confirm the copy or EXT to exit.

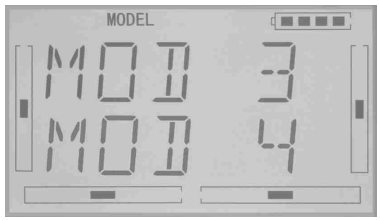
2.4 Model wireless copy

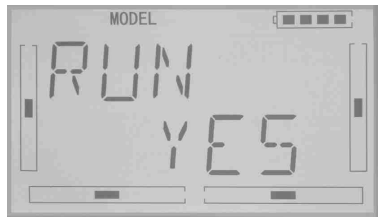
Model data can be copied wirelessly between two DEVO-7 units using the Model Transmit and Model Receive functions in the Model menu.

(1) Model data transmission(TRANS)

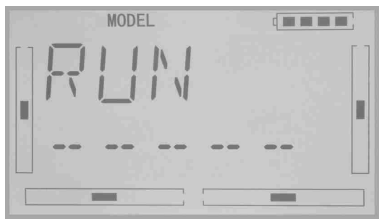
Press ENT to enter the Main Menu, use UP and DN to select MODEL, press ENT to enter Model sub-menu, press UP or DN until "TRANS" is flashing in the display. Press ENT again and use R and L to choose the source model.

Press ENT again to confirm the selection. "RUN:NO" will be displayed, use R or L to change to "RUN:YES" and ENT to start data transmission (use EXT to cancel).





Shown below is the display of a DEVO-7 in transmit mode. Press EXT at anytime to cancel and exit.

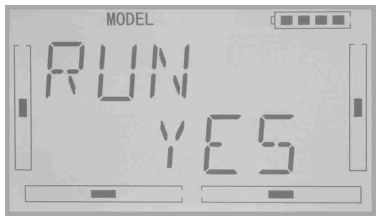


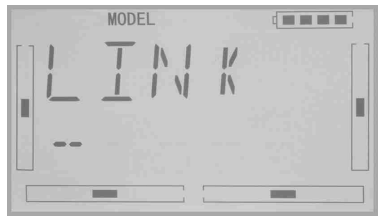
(2) Model reception (RECEI)

To receive model data, first select the model into which data should be copied, follow the process of model selection described previously. Model receive can overwrite an existing configuration so be sure to select carefully.

Press ENT to enter the Main Menu, use UP and DN to select MODEL, press ENT to enter Model sub-menu, press UP or DN until "RECEI" is flashing in the display. Press ENT again to confirm. The display shows "RUN:NO", use R or L to change to "RUN:YES", press ENT to confirm the reception, press EXT to exit.

After confirming "YES" by pressing ENT, the display shows "LINK .....".





After all the data has been received, the saving location will be displayed. Use R and L to change the saving location and press ENT, change the "SAVE:NO" confirmation to "SAVE:YES" using R or L and press ENT to confirm save or EXT to exit.

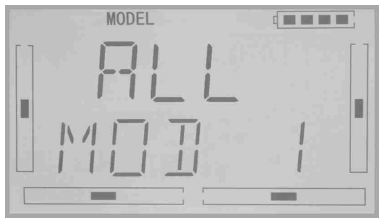
After saving is complete the system will return to the main menu.

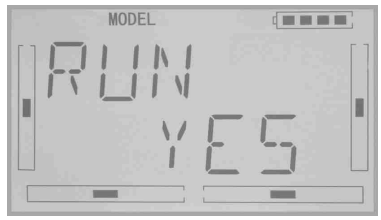
2.5 Model Reset(RESET)

Using the Model Reset function the settings for one or all models can be reset to the factory defaults.

Press ENT to enter the Main Menu, use UP and DN to select MODEL, press ENT to enter Model sub-menu, press UP or DN until "RESET" is flashing in the display. Press ENT again to display the model selection. Use R and L to select "ALL" for all models or the individual model name for a single model reset.

After selecting ALL or a specific model, press ENT, "RUN:NO" enquiry is displayed, use R or L to change it to "RUN:YES" and ENT to confirm or EXT to cancel.



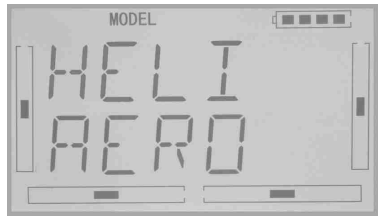


After confirming YES, the model or all data will be erased and the system will return to the Model menu. Press EXT to exit.

2.6 Type Select(TYPE)

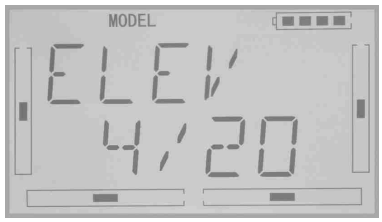
This transmitter offers a choice of two model types. The options are helicopter and airplane.

To change, press ENT button, select the flashing "MODEL" menu using UP or DN, press ENT, press UP or DN until flashing "TYPE" appears, press ENT again. Use L or R button to select "HELI" or "AERO" (flashing item is selected item). Press ENT to confirm and EXT to exit.



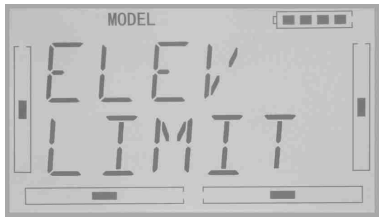
2.7 Trim System(STEP)

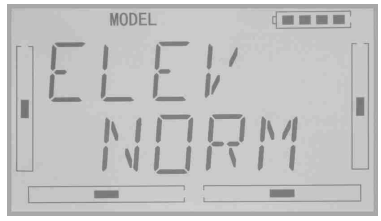
The Trim System permits the user to fine tune the following items: Elevator, Aileron, Rudder, Throttle. The trim step is divided in to 20 (factory default is 4). Using small values, permits fine trim control, larger values make larger adjustments for each 'click' of trim. the procedure to adjust the trim step is as follows:



To change, press ENT button, select the flashing "MODEL" menu using UP or DN, press ENT, press UP or DN until flashing "STEP" appears, press ENT again. Use UP or DN button to select between "ELEV", "AILE", "RUDD", "THRO" (flashing item is selected item). Use L or R to change the step value. Press ENT to confirm and EXT to exit.

The last 3 settings in this menu determine if the trim is applied at full control stick or not. This can prevent servo binding at maximum extents. When "NORM" is displayed, the trim setting is always applied, even at 100% travel. "LIMIT" setting, means that the trim is not applied when the control stick is a full travel. Default is "NORM". Press ENT to confirm, EXT to exit.





2.8 Device Select(INPUT)

This setting allows customization of the various function switches. The switches Flight Mode (top right corner) and Throttle Hold (top left corner) can accept custom settings. Stunt Trim mode can also be defined under this sub-menu.

To change, press ENT button, select the flashing "MODEL" menu using UP or DN, press ENT, press UP or DN until flashing "INPUT" appears, press ENT again. Use UP or DN button to select the switch you wish to program. Use R or L to cycle through the available options. Press ENT to confirm and EXT to exit.

(1) Flight Mode Switch

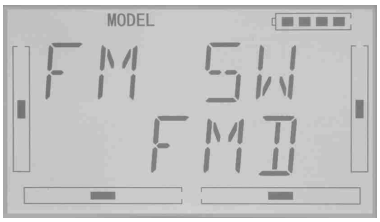
The 3 different Flight mode options can be assigned to use either of the 2, 3 position switches, FMD or MIX. FMD is the default.

(2) Stunt Trim Mode

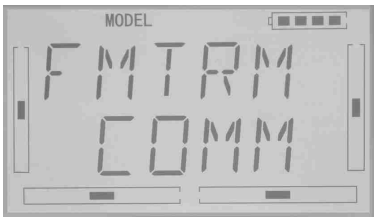
There are two option modes: Common and Flight Mode. In Common mode, all the trim value settings are applied the same to each Flight Mode. In Flight Mode, the trim value can be set and remembered differently for each of the 3 available Flight Modes. The default is "COMM", common.

Setup:

In the "INPUT" sub-menu (see above), use UP or DN to display "FMTRM" as shown in the diagram (right). Press R or L to select between the options "COMM" or "FMOD".



(1) Flight Mode Switch



(2) Stunt Trim Mode

(3) Throttle Hold Switch

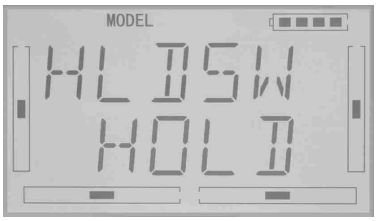
The function of Throttle Hold can be assigned to the following switches/positions: FMD12, FMD2, MIX12, MIX2, D/R, HOLD, GEAR. The factory default is HOLD.

Setup: In the "INPUT" sub-menu (see above), use UP or DN to display "HLDSW" as shown in the diagram (right). Press R or L to select between the options.

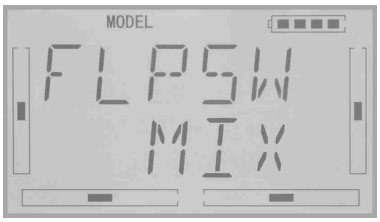
Press ENT to confirm, EXT to exit.

(4) Flap Switch Selection

Setup: Once finished the step3 , use DN to display FLPSW, use R or L to select MIX or FMD switch. After finished the setting, press ENT to confirm, EXT to exit.



(3) Throttle Hold Switch



(4) Flap Switch Selection

2.9 Device Output(OUTPUT)

The Device Output menu permits the output switches and levers to be customised to the users requirements. It also allows switches to be activated or inhibited or their action to be changed.

Setup:

Activate the MODEL menu using ENT then UP/DN buttons and ENT again, use UP/DN buttons until OUTPUT flashes in the display. Press ENT again to display the available options. There are three customisable switches, they are GEAR, FLAP and AUX2.

(1) GEAR Switch

After following the instructions above, when GEAR is displayed, use R or L to change the switch which activates the GEAR channel. The options are: FMOD SW, MIX SW, D/R, HOLD, GEAR SW, TRN and AUX2. The default setting is GEAR SW.

Pressing DN again shows the current status of the GEAR switch. Pressing R or L can toggle the setting between ACT (active), INH (disabled) and GYRO.

(2) FLAP Switch

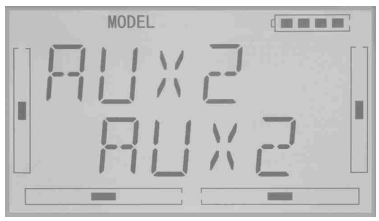
From the GEAR menu, press DN to display the FLAP setting as shown below. Use R and L again to cycle through the available switch options, FMD, MIX, D/R, HOLD, GEAR, TRN and AUX2.

Pres DN to show the FLAP activation menu, use R or L to select between ACT, INH, SYS.

(3) AUX2

Directly after setting the FLAP switch above, pressing DN to enter the AUX2 control. Pressing R or L can alter the assignment/function of the AUX2 knob. Available options are: FMD, MIX, D/R, HOLD, GEAR, TRN and AUX2. The default is AUX2.

Press DN to enter AUX2 ACT,INHIBIT and other functions options,Press R or L to change select active,inhibit and other functions options,there are INH, ACT, GYRO.



Once finished the settings, press EXT to exit.

2.10 Wing Type (WING)

There are three wing types available: Flaperon, Delta and V-Tail.

To select Wing Type:

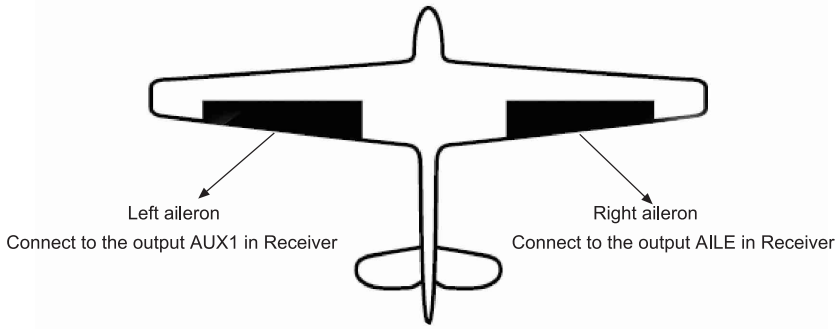
Enter the MODEL menu and use UP/DN until "WING" flashes in the display. Press ENT to enter the wing selection sub-menu as shown below.

(1) Flaperon

Use R or L to cycle through the available wing types. Select between, NORM, FLAP, DELTA. When the type flashes it is selected.

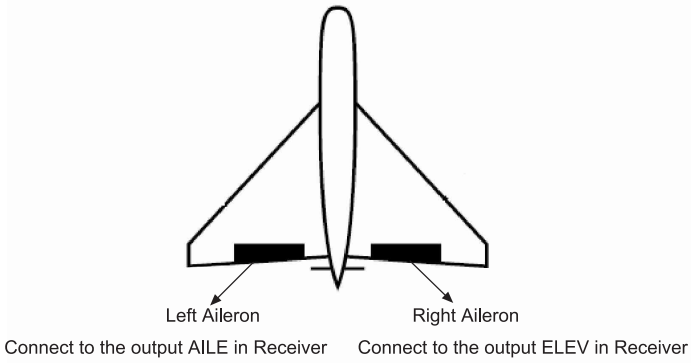
(1.1) Flaperon

The image below shows the servo connections required for the Flap and Aileron type.



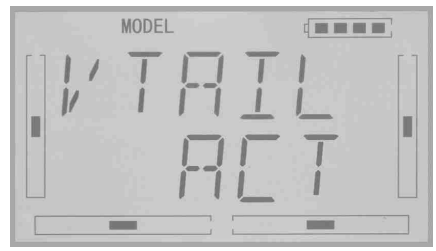
(1.2) DELTA

The image below shows the servo connections required for the DELTA type.

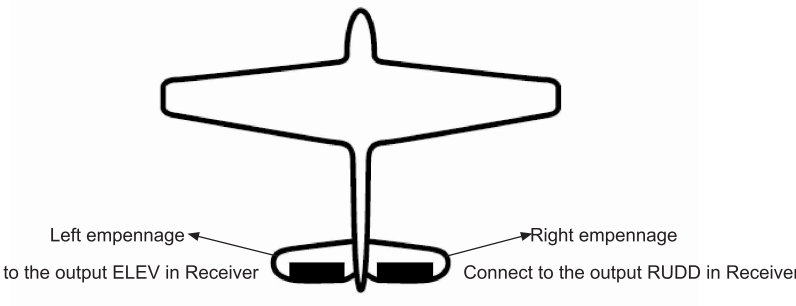


(2) V-TAIL (not selectable if DELTA type has been selected)

Press DN to display the V-TAIL menu, two options "INH" or "ACT" are available. Set to "ACT" as shown below using R or L.



The image below shows the servo connections required for the V-TAIL.



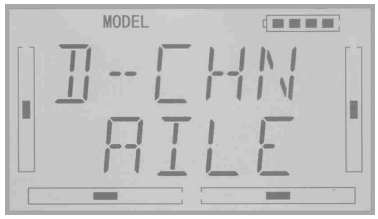
(3) Dual channel setting

Elevator, Aileron, Rudder or Flaperon channels can be selected to operate the dual channel setting. The channel selected to drive AUX in the Device Output (Refer to "Section 2.9 Device Output") should be previously set as Inhibit when the AUX channel is being set.

(3.1) channel setting

Setup method :

After setting V-TAIL , press DN to acess the dual channel setting as shown below:



Use R or L to select the desired channel:

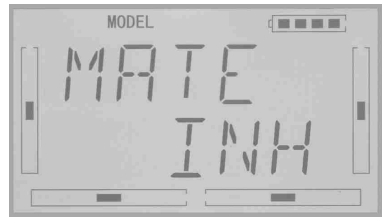
(3.1.1) Selecting "Normal" as the Wing Type and:- V-Tail as "INH", the options for Dual Channel are Elevator, Aileron, Rudder and Flap.- V-Tail as "ACT", the channel options available are Aileron and Flap.

(3.1.2) Selecting "FLAP" as the Wing Type and:- V-Tail as "INH", the available options are Elevator, Rudder.- V-Tail as "ACT", no Dual Channel options are possible.

(3.1.3) Selecting "DELTA" as the Wing Type and:- V-Tail as "INH", the available options are Rudder and Flap. - V-Tail as "ACT" is not possible.

(3.2) Mate settings

After completing the "Dual Channel" setting, press DN to enter the subchannel setting menu as shown below:



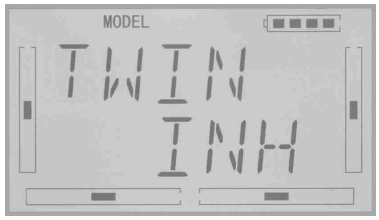
Pressing R or L displays "INH" or the channel which has been set to "INH" in the Section 2.9 Device Output setting. Other active channels will not be displayed.

(4) Twin Engine

Used for models which are powered by twin engines.

(4.1) Mate settings

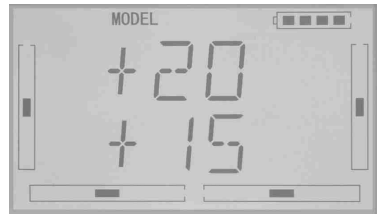
After completing the "Dual Channel" settings, pressing DN displays the Twin Engine sub menu as shown below:



Pressing R or L displays "INH" or the channel which has been set to "INH" in the Section 2.9 Device Output setting. Other active channels will not be displayed.

2.11 Power Amplifier(AMPLI)

The radio transmission output power of the DEVO-7 is adjustable. It is divided into six grades. The lower the transmitter output power, the shorter the radio range and the longer the battery life. The higher the transmitter output power, the longer the radio range and the shorter the battery life. Choose the a ppropriate setting according to the actual situation and use.



Setup:Press ENT button, select the flashing "MODEL" menu using UP or DN, press ENT, press UP or DN until flashing "AMPLI" appears, press ENT again. Use UP or DN buttons cycle through the six options, +20, +15, +10, +5, 0 and -5. Press ENT to confirm the flashing selection and EXT to exit.

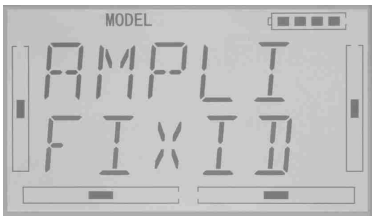
2.12 Fixed ID(FIXID)

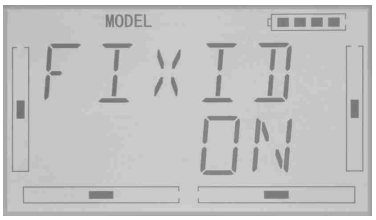
Using the Fixed ID function allows users to create a unique relationship between transmitter model data and the corresponding model's receiver. It significantly speeds up the binding process and also prevents mistakenly flying an aircraft with the incorrect transmitter model selected .

(1) Fixed ID Setup

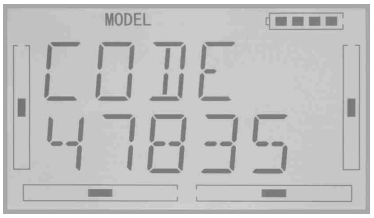
To start the Fixed ID setup it is important that the transmitter and receiver have successfully completed automatic ID binding process. Once the transmitter and receiver are paired a Fixed ID can be set as described below.

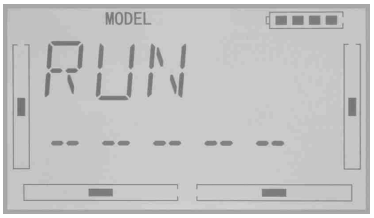
Press the "ENT" button on the main panel and a flashing System will display in the LCD. Use UP or DN to cycle through the options until Model appears flashing. Press "ENT" again to enter into Model edit menu. Press UP or DN until a flashing "FIXID" is displayed, press "ENT" to enter the Fixed ID menu. The current status is displayed. Use R or L to toggle between modes and set to "ON". Press DN to confirm and enter the Fixed ID code setting screen.





Press ENT to change the code data, use R and L to change the code values, press DN to move to the next digit, UP to move to the previous digit. After setting the desired code press ENT, "RUN" will be displayed. Use R or L to change NO to YES and press ENT to confirm and execute the binding process. After binding the display will return to the model menu automatically.



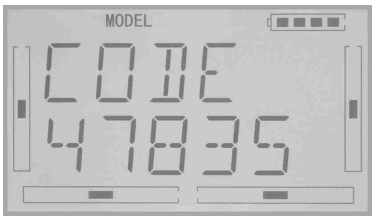


(2) Cancelling/Resetting the Fixed I D

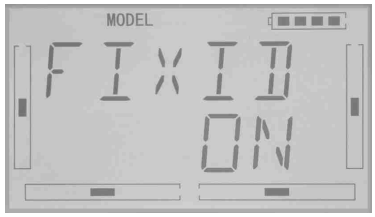
If you wish to change the receiver Fixed ID model back to random ID, insert the included BIND PLUG into the output terminal BATT before the receiver is powered on. Connect 5V DC power to the Throttle channel. The red LED of the receiver will flash slowly. Remove the BIND PLUG. The Fixed ID code has been cancelled.

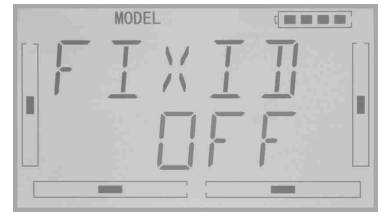
After the receiver's Fixed ID is reset it should also be reset in the Transmitter.

Refer to the instructions of Fixed ID setting above. When the following "CODE" image is displayed on screen, press the UP button.



When "FIXID: ON" is displayed, use R or L to toggle to "OFF". Press ENT to confirm and EXT to exit.



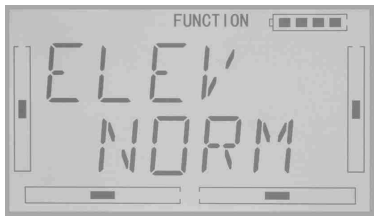


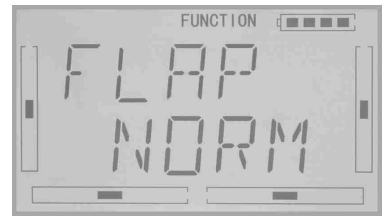
3.0 Function Menu

The Function Menu allows you to customize the settings for your saved models. This menu includes the following: Channel Reverse setting, Servo Travel Adjustment, Sub Trim, Dual Rate/Exponential, Throttle Hold, Throttle Curve, Difference Setting, Balance Setting, Gyro Sensor, Governor, Aileron to Rudder Mix, Elevator to Flap Mix, Rudder to Aileron/Elevator Mix, Flap Setting, Aileron to Flap Mix, Program Mix, Monitor, Fail Safe, Trainer and Timer.

3.1 Reverse Switch(REVSW)

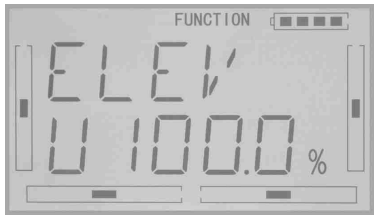
Press ENT, then use UP/DN until FUNCTION flashes in the display, press ENT to enter the FUNCTION menu. Use UP/DN to select REVSW and press ENT. The channel name will be displayed and the current status flashing alongside. Use R or L to toggle between NOR and REV. To select the next channel press DN. All the channels, ELEV, AILE, THRO, RUDD, GEAR, FLAP and GYRO, can all be set using this process. Use EXT to finish.

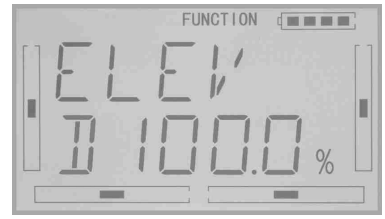




3.2 Travel Adjust(TRVAD)

Enter the FUNCTION menu as described above. Use UP/DN to select TRVAD and press enter. Displayed are the max and min percentage values for servo travel on each channel. Use R or L to change the value, use UP or DN to move to the next setting. The settings for all channels, ELEV, AILE, THRO, RUDD, GEAR, FLAP and GYRO can all be set using this process. Press EXT to exit when finished. The first channel ELEV is used in the example below.



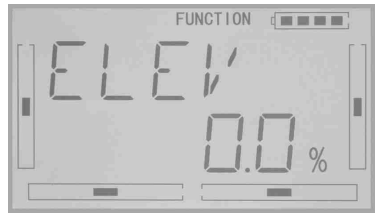


3.3 Sub Trim(SUBTR)

NOTE: Sub Trim is used to fine tune the servo neutral position during setup. In order to avoid pushing the servo beyond it's limits and possibly causing damage it is advised to first mechanically adjust the servo arm/bell crank to be as close to the neutral point as possible. Only when this is complete may sub trim be used to make a final adjustment.

SETTING: Enter the FUNCTION menu as described earlier and select SUBTR using UP/DN buttons. Press ENT to enter the subtrim setup menus. The channel name is displayed it's subtrim setting. Use R and L to

adjust until the servo arm is in the required position. U(UP), or D(DOWN) or + or - will be displayed left of the value depending on the direction of adjustment. As the previous settings, ELEV, AILE, THRO, RUDD, GEAR, FLAP and GYRO can all be adjusted using the same process. ELEV is used in the example below.



The default for every channel is 0.0%. The permitted adjustment ranges are show in the table below:

Channel name	Adjustment range	Channel name	Adjustment range
Elevator	D62.5%–U62.5%	Gear	–62.5%– +62.5%
Aileron	R62.5%–L62.5%	Flap	D62.5%–U62.5%
Throttle	L62.5%–H62.5%	Gyro	–62.5%– +62.5%
Rudder	R62.5%–L62.5%		

Press EXT to exit when finished.

3.4 Dual Rate and Exponential(DRE XP)

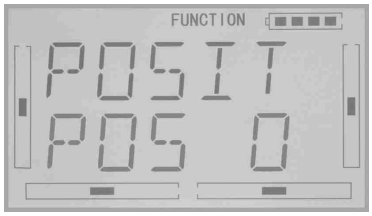
It is possible to use D/R switch to control over the dual rate of elevator,aileron,and rudder after the function of Dual Rate and Exponential is set up. The setting range is 0-125%.Under the help with exponential curve adjustment, it is not only manually but also automatically able to set up various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

(1) Channel selection

Setting method: Press ENT to enter Main Menu. Press UP or DN to flash"FUNCTION", and then press ENT to enter Function menu; Press UP or DN until "DREXP" blink; Press ENT to enter the options for Channel names.Press R or L, there is a selectable list for ELEV, AILE, RUDD. Here we take the ELEV for example.

(2) Position selection

Press DN to display the Switch Position setting as shown in the picture above. The positions available are POS0, POS1 and POS2. Use R and L to select the position you wish to change.

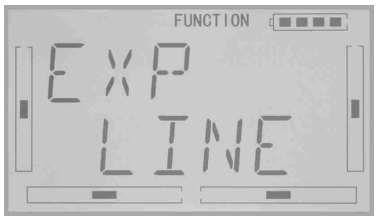


(3) Dual Rate adjustment

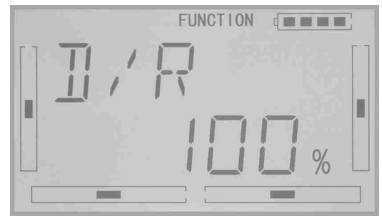
After choosing the correct position setting, press DN to show the current D/R setting. Use R and L to change this to your preferred value (range is 0-125%).

(4) Exponential adjustment

Once the Dual Rate value is set correctly, press DN once again to enter the EXP setting. Default is LINE (linear) and using the R/L keys you can increase or decrease Expo. Positive Expo reduces sensitivity in the mid-stick zone, negative increases the sensitivity. The defaults are shown below.



(3) Dual Rate adjustment

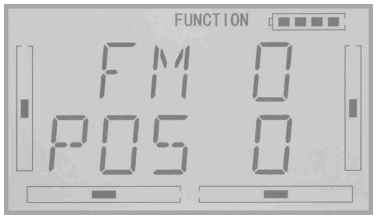


(4) Exponential adjustment

(5) Automatic setting

The switch between Dual Rate and Exponential can be performed via pushing or pulling the Flight Mode lever. The setting for Flight Mode 0, Flight Mode 1 and Flight Mode 2 are available. This function will become available only when Flight Mode Switch under Device Selection in MODEL MENU is activated(refer to 2.8 Device Selec).

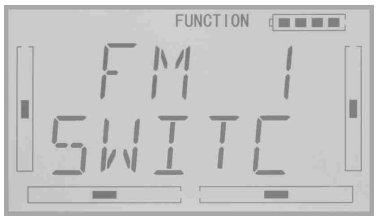
Under Flight Mode, it is possible to switch the dual rate and exponential, which are set in above"(3) Dual Rate adjustment" and "(4) Exponential adjustment", respectively.

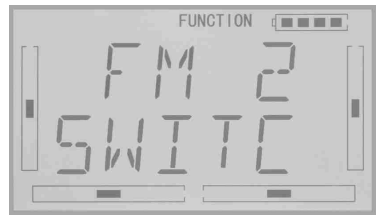


(6) After exponiential curve setting is ok, press DN to enter into FM 0 interface, and press R or L to flash SWITC, POS0,POS1 and POS2. Press R or L to choose the item to be set.

After FM 0 setting finished, press DN to enter into FM1 interface, in the same way in above.

After FM 1 setting finished, press DN to enter into FM2 interface, in the same way of above.

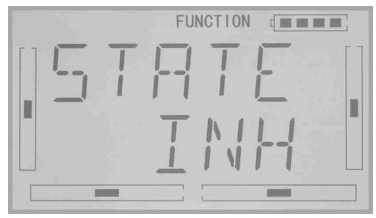




Press EXT to exit.

3.5 Throttle Hold(THHLD)

If the throttle hold function is activated in the function settings menu, it can be operated by the Throttle Hold switch as shown in the picture below. The permitted setting range is from -20.0% to 50.0%. The default setting is INH (inhibited).

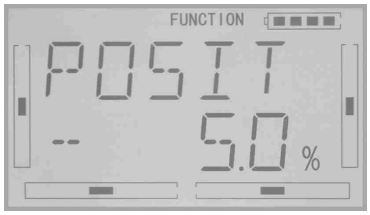


Enter the Function menu as described earlier, select the THHLD submenu using UP/DN and ENT. The options available for THHLD setting are INH (inhibited), ACT (active), use R and L to select.

With THHLD set to ACT, the ThrWith THHLD set to ACT, the Throttle Hold Position setting will be displayed by pressing DN.

(1) “Throttle Hold Position” setting

Throttle Hold is activated, press DN to enter the interface as below:



Use R and L to change the Hold value. The minimum value is -20.0%, the maximum value is +50.0%. When the Throttle Hold Switch HOLD is to the back, the throttle is controlled by the stick. When the HOLD switch is forward (towards the pilot) the HOLD value is active. The throttle stick has no effect.

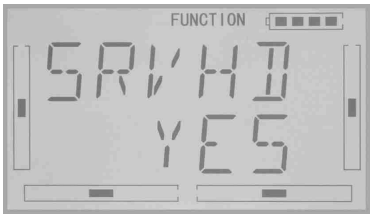
Press EXT to exit when finished.

CAUTION: An incorrect HOLD value can cause the rotor to begin turning automatically even when stick and trim is at the minimum position. Be sure to set the value correctly. To prevent injury or damage it is recommended to remove the main and tail rotor blades when testing the setting.

CAUTION: Turning off Throttle Hold in ST 1 or ST 2 or when the stick and trim is not at 0 may cause the rotor to turn unexpectedly. Please make sure to return stick and trim to zero and flight mode to NORM before turning off THHOLD.

3.6 Throttle Curve(THCRV)

Enter the Function menu and select THCRV submenu using UP/DN and ENT. Upon entering, SRVHD: YES is displayed, use R or L to select YES/NO and press ENT to confirm servos hold option. Selecting YES deactivates the control sticks, selecting NO means the sticks are still active as normal.

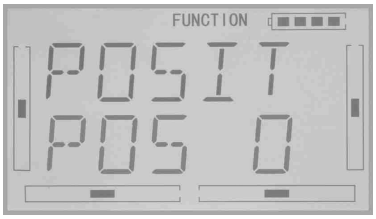


(1) Position Setting

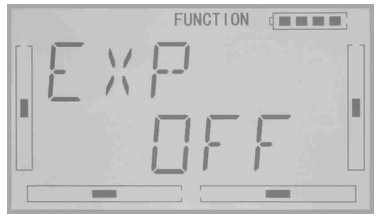
When the screen shows the POSIT, as per the image below, use R or L to select POS0, POS1 and POS2.

(2) Exponiential curve setting

After setting the position value, press DN to display the EXP (Exponential) setting. Use R or L to toggle between ON and OFF.



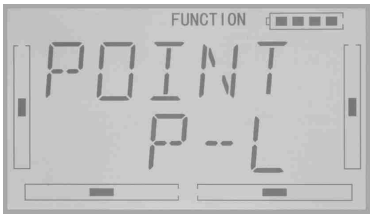
(1) Position Setting

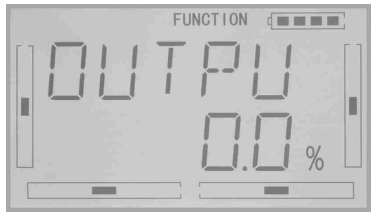


(2) Exponiential curve setting

(3) Point setting

After EXP item setting finished, presss DN, 7POINTS will be shown and press R or L to choose the point which you want to set. There are 7 points: L,1,2,M,3,4 and H7. Press DN to enter POINT OUTPUT setting, press R or L to set the value you want.Press UP to back to contiune to set other points value.





(4) Throttle lever switch

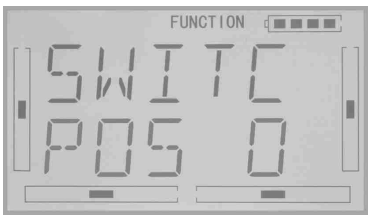
After the Throttle curve points have been set press DN to access the Throttle lever switch menu. Two options are available, either "INH" or a Throttle Lever Position. Press R to set "INH" or decrease the value, press L to increase the value. The range available is from 0% to 100%. The default setting is "INH".

After a value is set, when the Throttle Lever position passes the set point the switch value will toggle between POS 1 and POS 0.

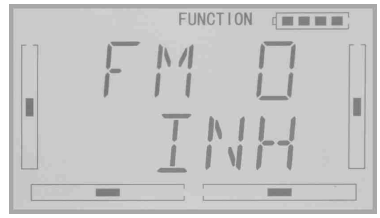
(5) Switch Assignment

If "INH" is chosen for the Throttle stick setting it is possible to manually set to POS 0 or POS 1 as desired. Press DN to exit the Throttle Lever setting, SWITC is displayed with the current position setting. Press ENT to access the switch selection and logic sub-menu.

In this sub menu it is possible to select a single switch to toggle POS 0 to POS 1 or a combination of switches. The first option displayed is the logic setting AND. Use R and L to change between "INH" and "ACT". Setting AND as "INH" permits the position of any activated switch to change the POS value (OR type logic). Setting AND as "ACT" means all the selected switch values must be activated to toggle POS 0 to POS 1 (AND type logic).



Press DN to enter the Switch assignment interface. Permitted options are: FM0, FM1, FM2, FPNRM, FPMID, FPLND, D/R, HOLD and GEAR. Use UP and DN to select the desired switch option. Use R and L to toggle between "INH" and "ACT". Press EXT to exit.



3.7 Differential(DIFFE)

To use this function the Wing Type must be set to either Flaperon or DELTA, see Section 2.10 Wing Type.

Setup

Enter the FUNCTION menu and use UP/DN until DIFFE flashes in the display. Press ENT to access the Differential sub-menu. The Channel setting is displayed first as shown in the image, left.

(1) Aileron differential setting

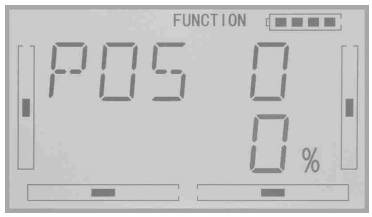
Separate servos for left and right ailerons are required. The screen below will be shown after the selection of the Flaperon or DELTA wing type as described in section 2.10 Wing Type. Use the DN button to display the position setup screen.

(1.1) Setting for Pos 0

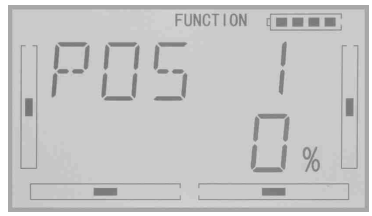
Use R or L to set the desired value. The permitted range is ±100%.

(1.2) Setting for Pos 1

Press DN to display the POS 1 setting, again use R or L to increase/decrease the value within the range ±100%.



(1.1) Setting for Pos 0



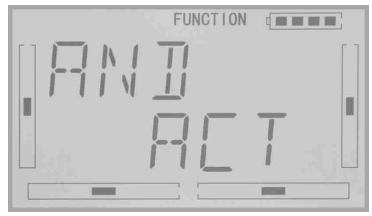
(1.2) Setting for Pos 1

(1.3) Switch selection

To toggle between POS 0 or POS 1 a single switch, multiple switches or a combination of switches can be used.

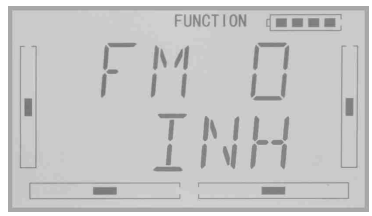
After setting the POS 1 value, press DN to enter the SWITCH selection menu. The current setting is displayed.

Press ENT to display the current switch settiings. Use R or L to select "INH" or "ACT" as required. When AND is set to "INH", if any of the switch conditions are met, the POS value is toggled (OR type logic), when AND is set to "ACT", all the switch positions set as "ACT" must be met together as a combination (AND type logic).



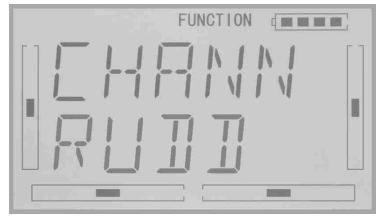
To assign a switch to change between the POS 0 and POS 1 settings press DN to display the switch options. Available settings are: FM0, FM1, FM2 FPNRM, FPMID, FPLND, D/R, HOLD and GEAR. Use UP and DN to choose the desired switch, use R or L to select "ACT" or "INH".

Use "EXT" to exit.



(2) Rudder differential setting

Rudder differential setting is available only if V-TAIL is selected as the wing type. Refer to “2.10 Wing Type”. And then the following interface will be shown:



Setup

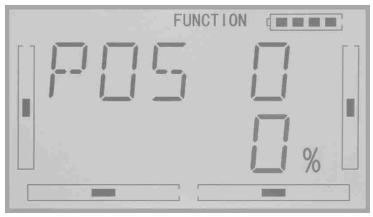
Enter the FUNCTION menu and use UP/DN until DIFFE flashes in the display. Press ENT to display the CHANN selection screen. Use R/L to select RUDD and press ENT.

(2.1) Setting for Pos 0

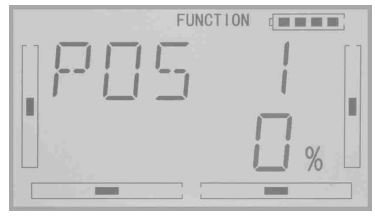
As for Aileron differential settings, press DN to display the POS 0 value selection screen, use R and L to increase or decrease to the desired value within the range ±100%.

(2.2) Setting for Pos 1

Press DN again to display the POS 1 value selection screen, use R and L to increase or decrease to the desired value within the range ±100%.



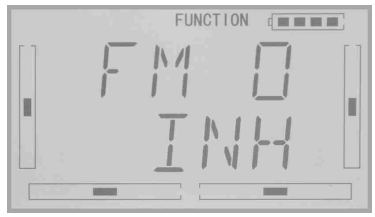
(2.1) Setting for Pos 0



(2.2) Setting for Pos 1

(2.3) Switch selection

To toggle between POS 0 or POS 1 a single switch, multiple switches or a combination of switches can be used. After setting the POS 1 value, press DN to enter the SWITCH selection menu. The current setting is displayed. Press ENT to display the current switch settiings. Use R or L to select "INH" or "ACT" as required. When AND is set to "INH", if any of the switch conditions are met, the POS value is toggled (OR type logic), when AND is set to "ACT", all the switch positions set as "ACT" must be met together as a combination (AND type logic)



To assign a switch to change between the POS 0 and POS 1 settings press DN to display the switch options. Available settings are: FM0, FM1, FM2 FPNRM, FPMID, FPLND, D/R, HOLD and GEAR. Use UP and DN to choose the desired switch, use R or L to select "ACT" or "INH".

Use "EXT" to exit.

(3) Flap differential setting

This menu is only accessible if the dual channel function in the device output menu is set to FLAP, see section 2.10 Wing Type.

Setup

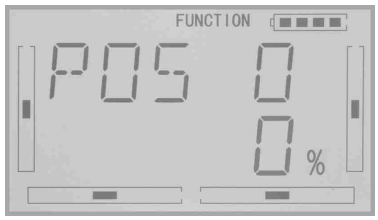
Enter the FUNCTION menu and then use UP/DN until DIFFE flashes in the display, press ENT to display the channel settings.

(3.1) Setting for Pos 0

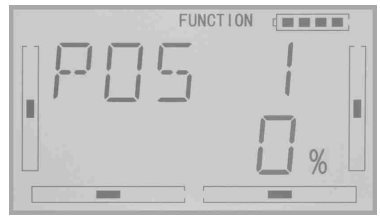
Press DN to access the position setting. Use R and L to increase or decrease the setting value. The range acceptable is ±100%

(3.2) Setting for Pos 1

Press DN to access POS 1 settings and use R or L to decrease or increase the setting value. The acceptable range is ±100%.



(3.1) Setting for Pos 0



(3.2) Setting for Pos 1

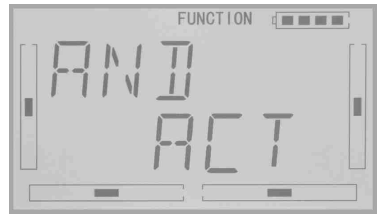
(3.3) Switch selection

To toggle between POS 0 or POS 1 a single switch, multiple switches or a combination of switches can be used.

After setting Pos1 , press DN to enter “switch”item setting interface to display switch item and current switch status.

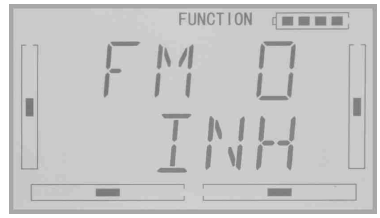
After setting the POS 1 value, press DN to enter the SWITCH selection menu. The current setting is displayed.

Press ENT to display the current switch settiings. Use R or L to select "INH" or "ACT" as required. When AND is set to "INH", if any of the switch conditions are met, the POS value is toggled (OR type logic), when AND is set to "ACT", all the switch positions set as "ACT" must be met together as a combination (AND type logic)



To assign a switch to change between the POS 0 and POS 1 settings press DN to display the switch options. Available settings are: FM0, FM1, FM2 FPNRM, FPMID, FPLND, D/R, HOLD and GEAR. Use UP and DN to choose the desired switch, use R or L to select "ACT" or "INH".

Use "EXT" to exit.

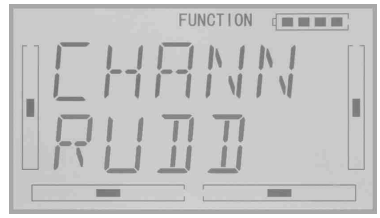


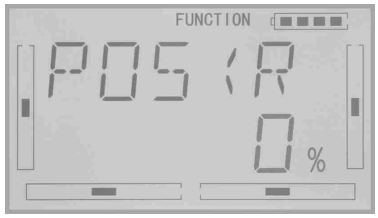
3.8 Balance(BALAN)

When dual channel operation has been enabled, the balance function allows tuning of the parameters for the linked servos. This function is only displayed if the wing type has been selected as FLPRN, DELTA or VTAIL, see "section 2.10 Wing Type".

Setup

Enter the FUNCTION menu and use the UP or DN keys until "BALAN" is flashing in the display. Press ENT to display the channel selection.





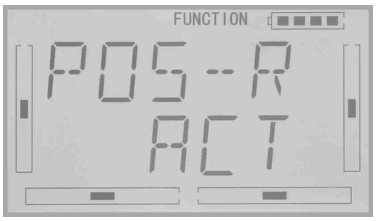
(1) Channel Selection

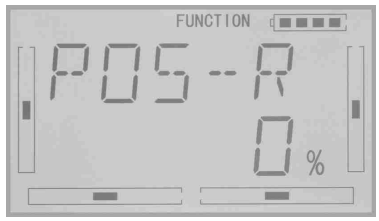
Use R or L until the channel you wish to adjust flashes in the display. Press DN to display the current setting.

(2) Point value adjustment

In the image (right), the POS < R setting is displayed. The value can be adjusted in the range ±100%.

Press DN to display the activation status for the next position, POS - R, see image below (left). Use R or L buttons to select either "ACT" or "INH". If "ACT" is selected, pressing DN will display the current value, see image (below right). If "INH" is selected, pressing DN will display the next position.





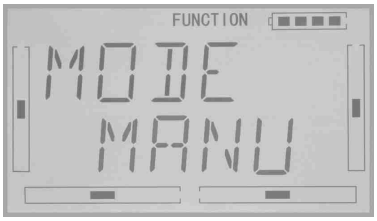
A value of 0% is equal to no adjustment, using R to set a minus value decreases the action of the selected channel, using L to set a positive value increases the action of the selected channel. The adjustment range is ±100%.

After setting the POS - R setting, each press of DN will display the next position point. The remaining points which can be set are POS--1, POS–M, POS--2, POS–L, POS>L. The setting method is the same as described above.

Press EXT to exit when finished.

3.9 Gyro sensitivity (GYRO)

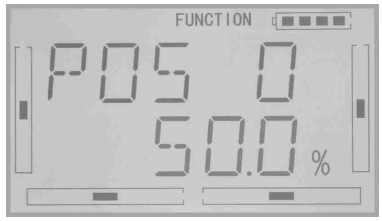
Enter the Function menu and use UP or DN to select GYRO. Press ENT to display the current MODE status. Use R or L to toggle between AUTO (automatic) or MANU (manual) settings.



(1) Manual setting

Select Manual setting by press R or L key, press ENT it will appears Switch selection, please select the switch you want, the default switch is MIX.

Switch value 0 will be show after press DN, press R or L to change the value. If the gyro used has two modes of NOR and AVCS, AVCS activated when above 50.0%. in AVCS mode, the bigger the value is, the bigger the gyro sensor gain will be. NOR will be activated when the value is less than 50.0%, In NOR mode, the smaller the value is, the bigger the sensitivity will be.



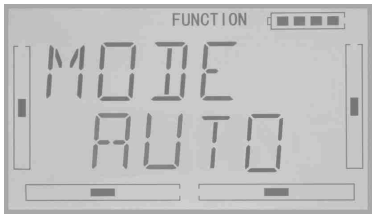
Press DN after POS 0 setting there will be appears POS 1 and POS 2 setting, please refer to steps of POS 0 setting. Press EXT to exit after finish.

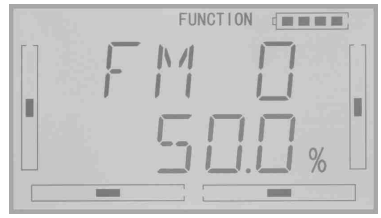
(2) Automatic setting

This function can alter in different sensitivity automatically on flight mode. (at first please make flight mode activated, refer to 2.8 setting).

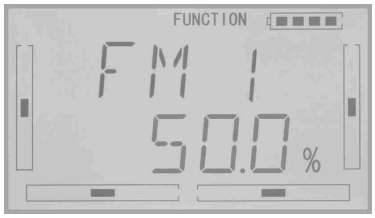
P ress R or L to select Automatic setting in Mode menu interface.

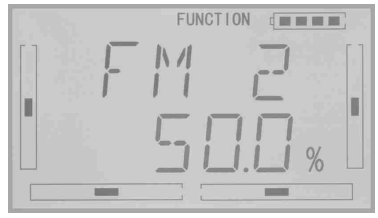
Press DN to enter FM 0 mode of auto setting, , press R or L to set the value. If the gyro used has two modes of NOR and AVCS, AVCS activated when above 50.0%. in AVCS mode, the bigger the value is, the bigger the gyro sensor gain will be. NOR will be activated when the value is less than 50.0%, In NOR mode, the smaller the value is, the bigger the sensitivity will be.





Press DN after FM 0 setting there will be appears FM 1 and FM 2 setting, please refer to steps of FM 0 setting.





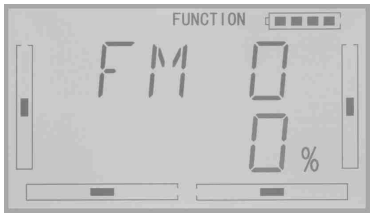
Press EXT to exit after finish.

3.10 Governor(GOVER)

To setup Governor, the Governor needs to be active under the Device Output menu (Refer to section 2.9 Device Output).

The Governor function is a feature which, when enabled, automatically tries to maintain a constant main rotor speed. It is possible to setup different Governor settings for each flight mode. On the transmitter, the display is a percentage for reference/adjustment, the actual rotation speed is set by the governor.

Enter the Function menu and select GOVER. Press ENT and use DN button to show the current GOVER status for FM 0, FM 1 and FM 2 flight modes.



(1) FM 0 setting

The setting for FM 0 flight mode is shown below. Use R or L to change the value. Use R to decrease, L to increase. The available adjustment range is from -125% to +125%.

(2) FM1, FM2 settings

After completing FM 0 governor value setup, use DN to select the next flight mode and repeat the process as required as shown below.

Press EXT to finish.

3.11 Aileron to Rudder Mix(AI-RU)

This function permits the combination or 'mixing' of a second control output based on a single control input to improve aircraft flight characteristics. Mixing can be assigned to a switch for maximum control.

Setup:

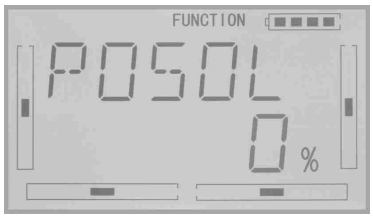
Enter the FUNCTION menu and use UP/DN until AL-RU flashes in the display. Press ENT to access the sub-menu.

(1) Pos 0 Left setting

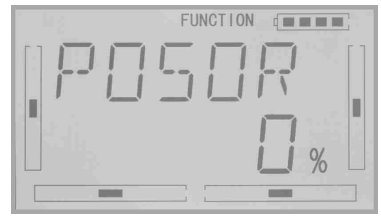
When the switch is in the 0 position, this value will modify the RUDDER (slave) channel output when the AILERON (master) channel is moved left. The mixing applied can be reversed by using a negative value. the adjustment range is ±125%.

(2) Pos 0 Right setting

Press DN to exit Pos0L setting and to enter Pos0R setting. When the switch is in the 0 position, this value will modify the RUDDER (slave) channel output when the AILERON (master) channel is moved right. The mixing applied can be reversed by using a negative value. the adjustment range is ±125%.

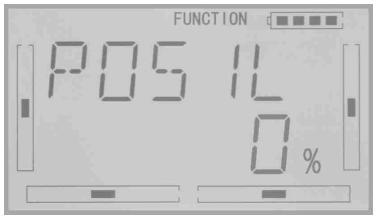


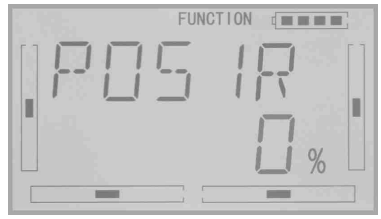
(1) Pos 0 left setting



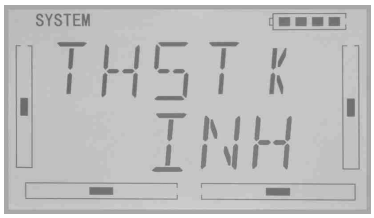
(2) Pos 0 right setting

(3) Pos 1 setup: repeat as for Pos 0
Press DN to display the L and R values of mixing to be applied with the mixing switch in Pos 1. Use the method described above to set each value as required.



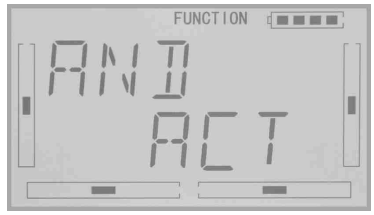


(4) Throttle stick controlled mixing
If desired, the switch between Pos 0 and Pos 1 can be assigned to the throttle stick. Press DN to enter the Throttle Stick setup menu.



The mixing Pos 0 / Pos 1 switching can be controlled automatically by the position of the throttle stick. To adjust the point at which switching occurs, use the R or L buttons to set a throttle stick value from 0 to 100%. If throttle stick switching is not required, set to "INH".

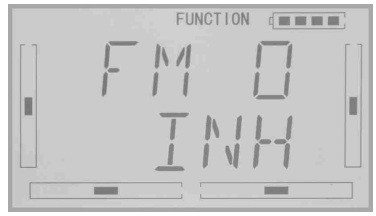
(5) Manual switching
If manual switching is required, press DN to enter the switch selection sub-menu. The current switch position is displayed. Press ENT to access the stick selection/combination menu. "AND" is displayed; if switching is required using a single switch set AND as "INH" (OR logic) using R or L, if a combination of switches it to be used, select "ACT" (AND logic).



To assign a switch to change between the POS 0 and POS 1 settings press DN to display the switch options. Available settings are: FM0, FM1, FM2 FPNRM, FPMID, FPLND, D/R, HOLD and GEAR.

Use UP and DN to choose the desired switch, use R or L to select "ACT" or "INH".

Use "EXT" to exit.



3.12 Elevator to Flap Mix(EL--FL)

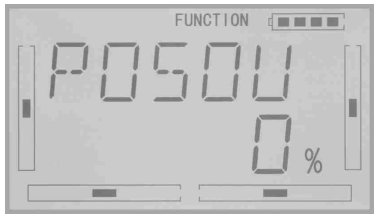
This function permits the combination or 'mixing' of a second control output based on a single control input to improve aircraft flight characteristics. Mixing can be assigned to a switch for maximum control.

Setup:

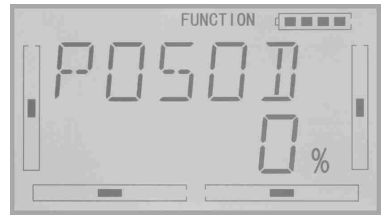
Enter the FUNCTION menu and use UP/DN until EL-FL flashes in the display. Press ENT to access the sub-menu.

(1) Pos 0 Up setting
When the switch is in the 0 position, this value will modify the FLAP (slave) channel output when the ELEVATOR (master) channel is moved up. The mixing applied can be reversed by using a negative value. the adjustment range is ±125%.

(2) Pos 0 Down setting
Press DN to exit Pos0U setting and to enter Pos0D setting. When the switch is in the 0 position, this value will modify the FLAP (slave) channel output when the ELEVATOR (master) channel is moved down. The mixing applied can be reversed by using a negative value. the adjustment range is ±125%.

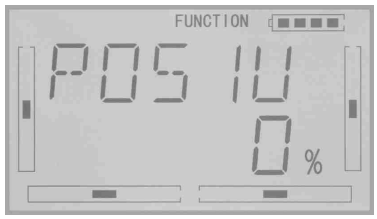


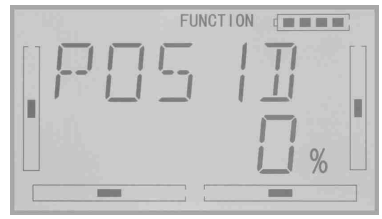
(1) Pos 0 up setting



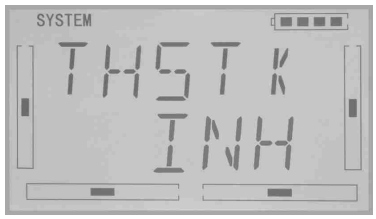
(2) Pos 0 down setting

(3) Pos 1 setup: repeat as for Pos 0
Press DN to display the Up and Down values of mixing to be applied with the mixing switch in Pos 1. Use the method described above to set each value as required.



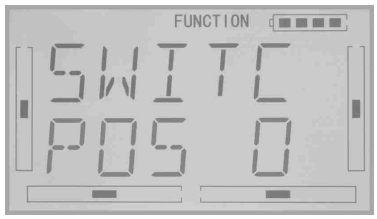


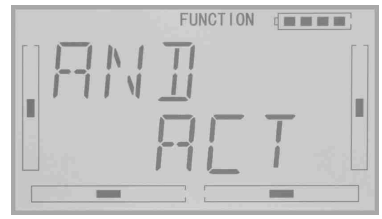
(4) Throttle stick controlled mixing
If desired, the switch between Pos 0 and Pos 1 can be assigned to the throttle stick. Press DN to enter the Throttle Stick setup menu.



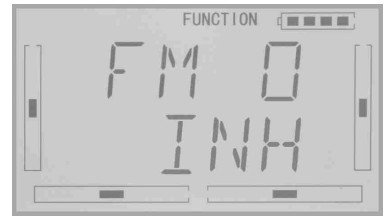
The mixing Pos 0 / Pos 1 switching can be controlled automatically by the position of the throttle stick. To adjust the point at which switching occurs, use the R or L buttons to set a throttle stick value from 0 to 100%. If throttle stick switching is not required, set to "INH".

(5) Manual switching
If manual switching is required, press DN to enter the switch selection sub-menu. The current switch position is displayed. Press ENT to access the stick selection/combination menu. "AND" is displayed; if switching is required using a single switch set AND as "INH" (OR logic) using R or L, if a combination of switches it to be used, select "ACT" (AND logic).





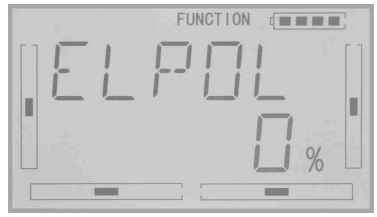
To assign a switch to change between the POS 0 and POS 1 settings press DN to display the switch options. Available settings are: FM0, FM1, FM2 FPNRM, FPMID, FPLND, D/R, HOLD and GEAR.
Use UP and DN to choose the desired switch, use R or L to select "ACT" or "INH".



3.13 Rudder to Aileron/Elevator MIX(RU--AE)

This function permits the combination or 'mixing' of a second control output based on a single control input to improve aircraft flight characteristics. The amount of mixing applied can varied between two preset values by a switch for maximum control.

Setup:



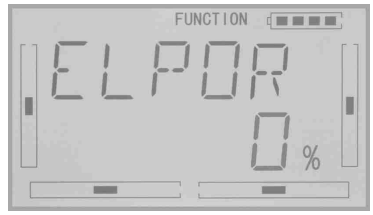
Enter the FUNCTION menu and use UP/DN until RU-AE flashes in the display. Press ENT to access the sub-menu.

The method is the same as for the previous mixing settings except that in this case there are two slave channels instead of one. Elevator channel setting is made first, followed by Aileron.

(1) Elevator channel setup
(1.1) Pos 0 Left setting
When the switch is in the 0 position, this value will modify the ELEVATOR (slave) channel output when the RUDDER (master) channel is moved left. The mixing applied can be reversed by using a negative value. the adjustment range is ±125%.

(1.2) Pos 0 Right setting
Press DN to exit ELP0L setting and to enter ELP0R setting.
When the switch is in the 0 position, this value will modify the ELEVATOR (slave) channel output when the RUDDER (master) channel is moved right. The mixing applied can be reversed by using a negative value. the adjustment range is ±125%.

(1.1) Pos 0 left setting

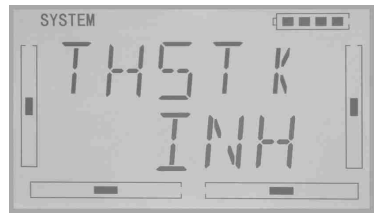


(1.2) Pos 0 right setting

(1.3) Pos 1 setup: repeat as for Pos 0
Press DN to display the Up and Down values of mixing to be applied with the mixing switch in Pos 1. Use the method described above to set each value as required.

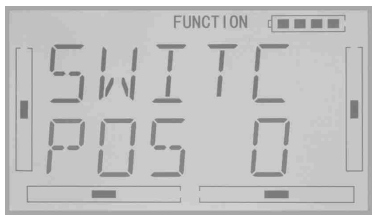
(2) Aileron channel setup
Repeat the process described above for the Aileron channel. the values appear as ALP0L, ALP0R, ALP1L and ALP1R.

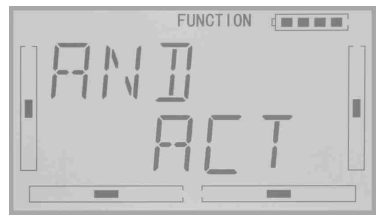
(3) Throttle stick controlled mixing
If desired, the switch between Pos 0 and Pos 1 can be assigned to the throttle stick. Press DN to enter the Throttle Stick setup menu.



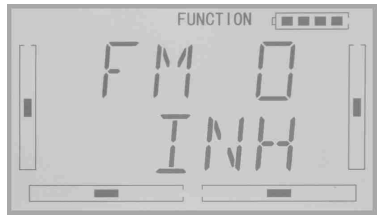
The mixing Pos 0 / Pos 1 switching can be controlled automatically by the position of the throttle stick. To adjust the point at which switching occurs, use the R or L buttons to set a throttle stick value from 0 to 100%. If throttle stick switching is not required, set to "INH".

(4) Manual switching
If manual switching is required, press DN to enter the switch selection sub-menu. The current switch position is displayed. Press ENT to access the stick selection/combination menu. "AND" is displayed; if switching is required using a single switch set AND as "INH" (OR logic) using R or L, if a combination of switches it to be used, select "ACT" (AND logic).





To assign a switch to change between the POS 0 and POS 1 settings press DN to display the switch options. Available settings are: FM0, FM1, FM2 FPNRM, FPMID, FPLND, D/R, HOLD and GEAR.



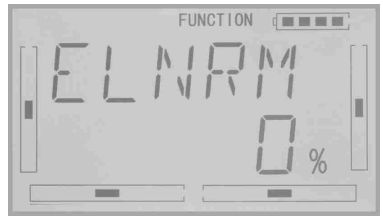
Use UP and DN to choose the desired switch, use R or L to select "ACT" or "INH".

Use "EXT" to exit.

3.14 Flap System(FLAPS)

This function alters the Elevator performance when flaps are deployed to assist the pilot maintain good control of the aircraft. Three setting pairs of Elevator/Flap values are controlled by a three-way control switch.

Setup
Enter the FUNCTION menu and use the UP/DN keys until FLAPS is flashing in the display. Press ENT and the current elevator normal (ELNRM) setting will be displayed.



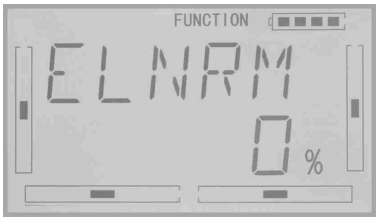
(1) Elevator setting

There are three FLAPS switch positions, Normal, Middle and Land.

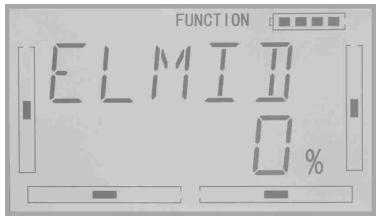
(1.1) Normal Position, ELNRM

Use R or L to change the ELEV gyro mixing amount. The direction of action may be reversed when displaying U or D in front of the value. The default setting is 0% and the possible range is D125% to U125%.

(1.2) Middle and Land positions, ELMID and ELLND the setting method is the same as above.



(1.1) Normal position



(1.2) Midpoint position

(1.3) Land position

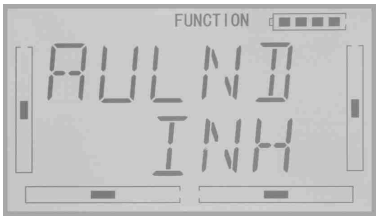
After setting of Midpoint,press DN enter to Land interface.Press R or L keys to change the ELEV gyro mix amount. It is possible to change the direction by altering D or U before the amount. The default setting is 0%, and the adjustable range is U125% to D125%.

(2) Flap value setup

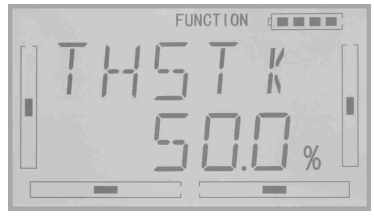
The method is the same as described for setting the Elevator values.

(3) Auto Land

After entering the FLAPS values, pressing DN displays the Auto-Land (AULND) setup.



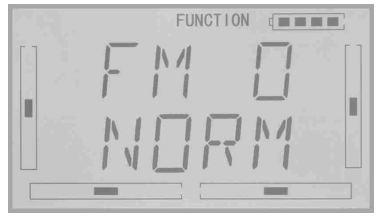
Use R or L to select "ACT" or "INH". When "ACT" is selected, the Throttle sub-menu can be accessed by pressing DN.



(3.1) Throttle stick position setting: Using R or L, change the value of the throttle stick which activates the switch. The adjustment range is between 0.0 and 100.0%.

(3.2) Flight mode selection: Auto landing mode can be set active dependant on the Flight Mode setting. This setting should be previously set in Wing Type at Model Menu. Refer to “2.10Wing Type”.

(3.2.1) Flight mode 0 setting: Once the throttle stick setting has been entered, press DN to access the Flight mode auto selector menu. A mode for the flaps setting can be assigned to the flight mode. Using R or L, set the flaps setting to be used in flight mode 0. The choices available are NORM, MID and LAND. “Normal” setting is manually control.

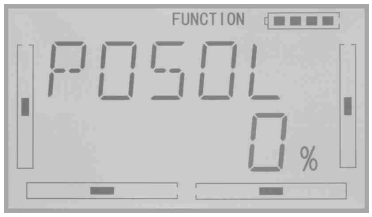


(3.2.2) Flight mode 1 and 2 setup methods are the same as for flight mode 0.

Press EXT to exit.

3.15 Aileron to Flap Mix(AI--FL)

This function permits mixing of the aileron and flap channels. To be visible, the wing type in section 2.10 Wing Type must be correctly set.

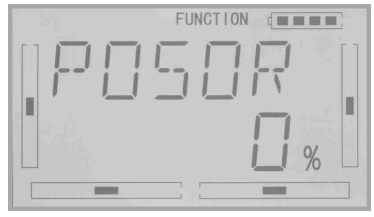


Setting method:

press “ENT” key to get the flashing main memu. Press UP and DN keys until “FUNCTION” becomes flashing, then press “ENT” key to Function menu. Press UP or DN key until “AI–FL” becomes flashing; Press ENT key, you will find the Left at Pos 0 setting under the AI--FL interface.

(1) Pos 0 setting
(1.1) Pos 0 Left
Press R or L to alter the amount of FLAP applied when using Left Aileron. The range permitted is +-125%. When changing between + and - values the direction of applied mix is reversed.

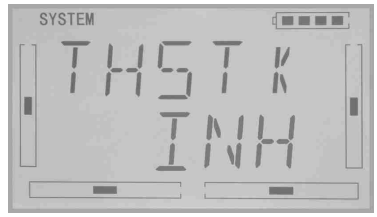
(1.2) Pos 0 Right
Press DN to access the POS0R setting to adjust the amount of FLAP applied when using Right Aileron. The setting method is the same as above.



(2) Pos 1 setting

The Pos1L and Pos1R settings are made in the same way as for Pos0L and Pos0R settings.

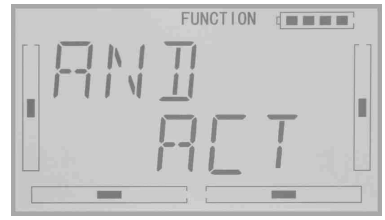
(3) Throttle stick control
If desired, the switch between Pos 0 and Pos 1 can be assigned to the throttle stick. Press DN to enter the Throttle Stick setup menu.

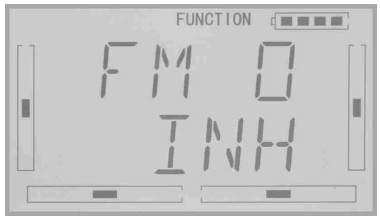


The mixing Pos 0 / Pos 1 switching can be controlled automatically by the position of the throttle stick. To adjust the point at which switching occurs, use the R or L buttons to set a throttle stick value from 0 to 100%. If throttle stick switching is not required, set to "INH".

(4) Manual switching

If manual switching is required, press DN to enter the switch selection sub-menu. The current switch position is displayed. Press ENT to access the stick selection/combination menu. "AND" is displayed; if switching is required using a single switch set AND as "INH" (OR logic) using R or L, if a combination of switches it to be used, select "ACT" (AND logic).





To assign a switch to change between the POS 0 and POS 1 settings press DN to display the switch options. Available settings are: FM0, FM1, FM2 FPNRM, FPMID, FPLND, D/R, HOLD and GEAR.

Use UP and DN to choose the desired switch, use R or L to select "ACT" or "INH".

Use "EXT" to exit.

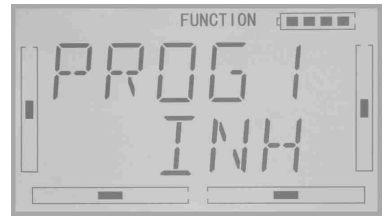
3.12 Program Mix(PRGMX)

The DEVO-7 features 8 Program Mix memories. Mix channels and mix values are customizable.

Setting Method:

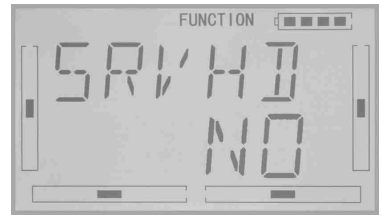
From the FUNCTION menu select PRGMX. Press ENT to display the current activation status for the PROG1 memory. Default status is INH (inhibited), use R or L to select between the 3 options, inhibited, normal or curve.

Using PROG1 (Program Mix 1) memory as an example.



(1) NORM (normal) setting of Program Mix

With PROG 1 displayed as shown, use R or L buttons to select NORM. Press ENT to confirm and select the SRVHD (Servos Hold) option, using R or L to toggle between YES and NO. Selecting YES locks the current servo position, NO allows the servos to move. Confirm with ENT.



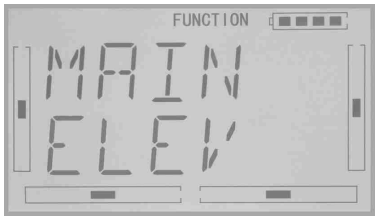
After pressing ENT, the setup interface is displayed. The adjustments available include Main Channel, Slave Channel, position O, Position 1, Offset, throttle stick ,switch.

(1.1) Selecting the main channe l

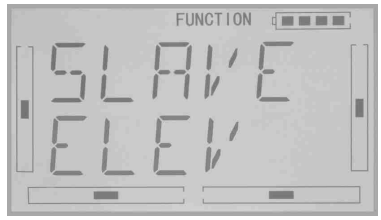
As shown below, use R or L to select the main channel from the available options: ELEV, AILE, THRO, RUDD, GEAR, FLAP, AUX2, OELEV, OAILE, OTHRO, ORUDD, AUX2.

(1.2) Selecting the slave channel

After setting the main channel, press DN to move to the slave channel selection. Use R and L again to select from ELEV,AILE,THRO,RUDD,FLPRL,FLAP,AUX2.



(1.1) Selecting the main channe l

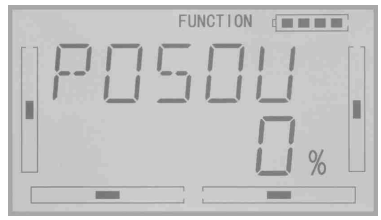


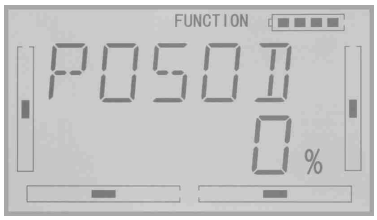
(1.2) Selecting the slave channel

(1.3) Position 0 setting

Take ELEV as master channel for example.Press DN after finished the slave channel setting.enter to the Position 0 setting interface.

(1.3.1) Mix amount setting when elevator stick moved upward: Press R or L 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%.





(1.3.2) Mix amount setting when elevator stick moved downward: Press R or L 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%.

(1.3.3) Pos 1 setting:

The setting is same as above.

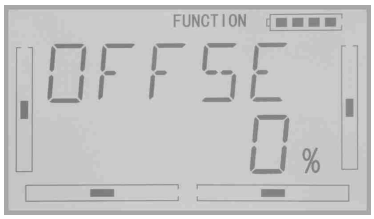
(1.4) Offset setting

It Can start from some position through switch stick in “slave channel ” interface to set the mix.

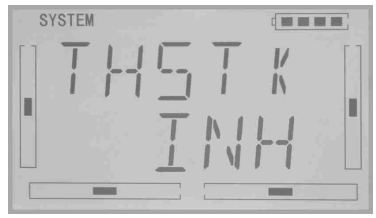
Press DN enter to Offset setting after finished the Pos 1.Press R to decrease the mix amount and L to increase. It is possible to reverse mix direction through changing the plus or minus sign before amount. The adjustable range is ±100%.

(1.5) Throttle stick setting

Press DN enter to throttle stick setting after finished the Offset. Press R or L key can set the stick position value. The default setting is “inhibit”. The adjustable range is 0.0-100.0%.



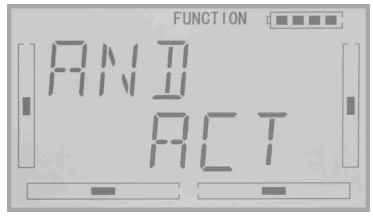
(1.4) Offset setting



(1.5) Throttle stick setting

(1.6) Manual switching

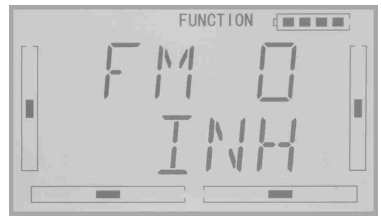
If manual switching is required, press DN to enter the switch selection sub-menu. The current switch position is displayed. Press ENT to access the stick selection/combination menu. "AND" is displayed; if switching is required using a single switch set AND as "INH" (OR logic) using R or L, if a combination of switches it to be used, select "ACT" (AND logic).



To assign a switch to change between the POS 0 and POS 1 settings press DN to display the switch options. Available settings are: FM0, FM1, FM2 FPNRM, FPMID, FPLND, D/R, HOLD and GEAR.

Use UP and DN to choose the desired switch, use R or L to select "ACT" or "INH".

Use "EXT" to exit.



(2) “Curve” setting of “Program Mix”

Press “ENT” key to get the flashing main memu. Press UP and DN keys until “FUNCTION” becomes flashing, then press “ENT” key to Function menu. Press UP or DN key until “PRGMX” becomes flashing; Press ENT key, you will find the Program mix setting . (the factory default setting is Inhibit). Press R or L key to select the Inhibit ,Normal,Curve.

Take Program Mix 1 as an example select the Curve to show how to use.

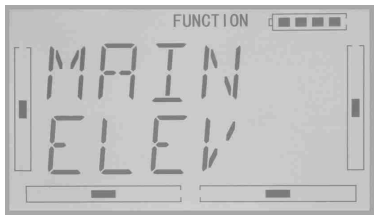
Press ENT key, pop up “All Servos Hold?” Click Yes for all the servos will be locked at the current statuses; click Cancel for unlocked. Press ENT to master channel select interface.

(2.1) Selecting the main channe l

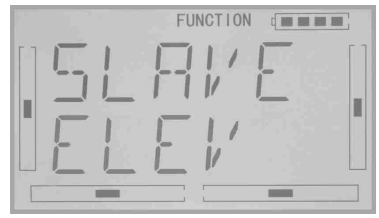
As shown below, use R or L to select the main channel from the available options: ELEV,AILE,THRO,RUDD, GEAR,FLAP,AUX2,OELEV,OAILE,OTHRO,ORUDD,AUX2.

(2.2) Selecting the slave channel

After setting the main channel, press DN to move to the slave channel selection. Use R and L again to select from ELEV,AILE,THRO,RUDD,FLPRL,FLAP,AUX2.



(2.1) Selecting the main channe l



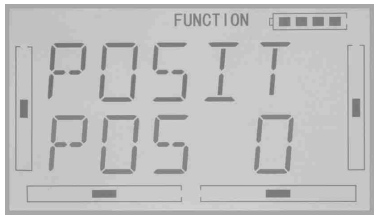
(2.2) Selecting the slave channel

(2.3) Position setting

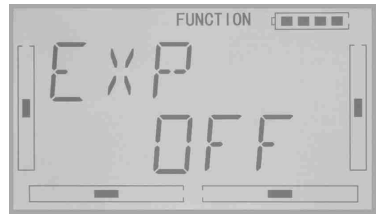
Press DN after finished the slave channel setting.enter to the Position setting interface.(see below illustration)

(2.4) Exponential curve

After setting the Position, press DN to move to the EXP setting. Use R and L again to toggle between ON and OFF. Using EXPO: ON smooths the curve, EXPO: OFF does not.



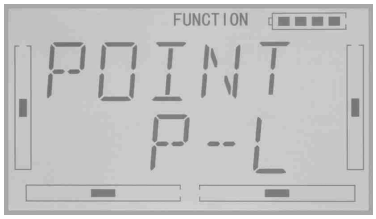
(2.3) Position setting



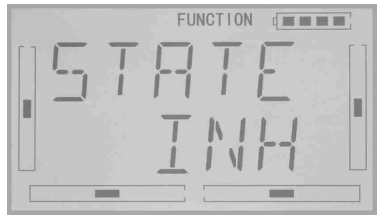
(2.4) Exponetial curve

(2.5) Point setting

Pressing DN will display the POINT selector. Use R or L to select any of the 7 points, from L, through 1, 2, M, 3, 4 to H. Press DN to display the current setting for the selected point.



(2.5) Point



(2.6) Status

(2.6) State setting

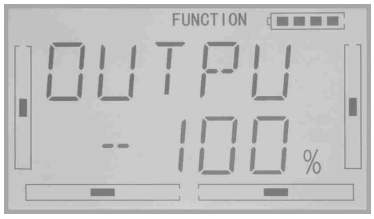
For points 1, 2, M, 3 and 4, an additional setting, STATE, is displayed. Use R or L to toggle between INH (default for 1, 2, 3, 4) or ACT (default for M). When INH(inhibited) is selected, there is no further option. If ACT is selected then pressing DN displays the Output setting.

(2.7) Output

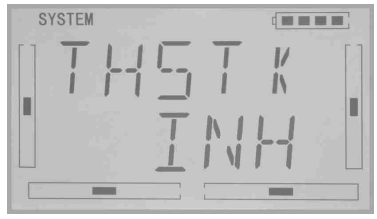
When the Point setting is ACT press DN enter to Output setting. See below illustration,Press R to decrease the data ,the Min. -100%, press L to increase the Output data, the MAX. +100%.Press R or L to adjust the data of +,- to reverse if the mix was reverse.

(2.8) Throttle stick setting

Press DN ket to enter to throttle stick setting interface after set the Output setting.Press R or L can select Stick position data.the default setting is “Inhibit”,the adjustment range is 0.0-100.0%.



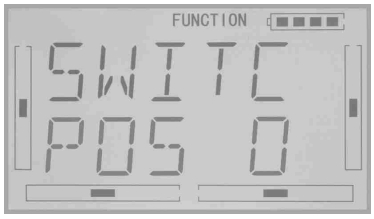
(2.7) Output

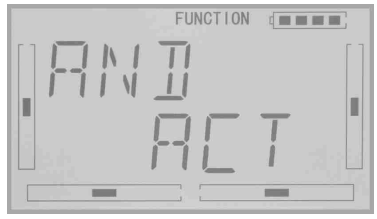


(2.8) Throttle stick setting

(2.9) Manual switching

If manual switching is required, press DN to enter the switch selection sub-menu. The current switch position is displayed. Press ENT to access the stick selection/combination menu. "AND" is displayed; if switching is required using a single switch set AND as "INH" (OR logic) using R or L, if a combination of switches it to be used, select "ACT" (AND logic).

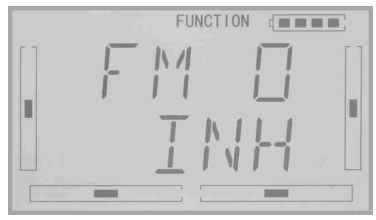




To assign a switch to change between the POS 0 and POS 1 settings press DN to display the switch options. Available settings are: FM0, FM1, FM2 FPNRM, FPMID, FPLND, D/R, HOLD and GEAR.

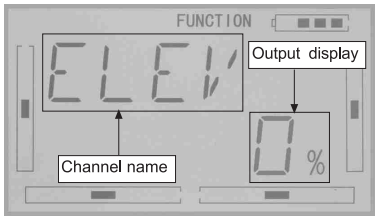
Use UP and DN to choose the desired switch, use R or L to select "ACT" or "INH".

Use "EXT" to exit.



3.17 Monitor(MONIT)

The monitor function allows the pilot to monitor the outputs of each transmitter channel.



From the FUNCTION menu, select MONIT. Press ENT and the channel name is displayed and below is the current output value.

Use R or L to cycle through all the available channels. Moving the sticks should change the output value displayed.

Use EXT to exit.

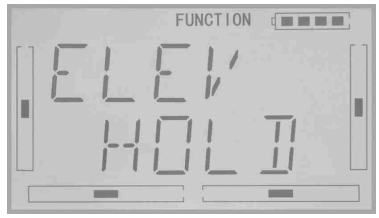
3.18 Fail Safe(SAFE)

Two options exist if the receiver loses the connection with the transmitter; the first is HOLD - keep the last action data received, the second is to use a pre-set failsafe value. The default setting is HOLD.

Setup method:

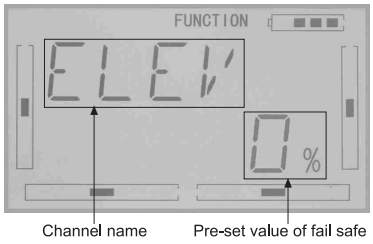
From the FUNCTION menu select SAFE. After pressing ENT the failsafe operation mode can be selected using R or L to toggle between HOLD and SAFE options. The default option is HOLD.

If SAFE is selected, keep pressing DN to display the 7 transmitter channels in turn, ELEV, AILE, THRO, RUDD, GEAR, FLAP, GYRO.



On above interface, press R or L to selet keep or fail safe. If selecting keeping, locking the last dated received; If selecting fail safe, to execute the pre-set date which is pre-set. The default setting is Servo Hold.

Press R to SAFE, press DN to enter fail safe date interface



Use R or L to input the value which should be used as the failsafe output value. 0% is the same as mid-stick, no trim. To increase or decrease the servo position, set the failsafe value between -125% and +125%.

Use DN to setup the next channel.

The setting process is the same for all the channels. Use EXT to exit when finished.

NOTE: If the helicopter enters a failsafe mode for any reason power should be disconnected from the Heli and it must be thoroughly checked over before flying again. Using 100% throttle after a failsafe event may be dangerous and cause injury or damage.

3.19 Trainer(TRAIN)

To help the beginner pilot it is possible to make two DEVO-7 transmitters operate together using a training function. The training function permits the teacher to limit or override the controls of the trainee. The instructions for using the training function are below:

(1) Data copy

The first step is to copy the model settings from the teacher's DEVO-7 to the trainee's DEVO-7, this guarantees that the model data in both transmitters is identical. To do this refer to the copy method as described in Helicopter setup section "2.4 model wireless copy". Once completed, follow the steps below:

(2) Connection

First, insert the signal wire (supplied) into the DSC socket of the trainee's transmitter. Turn on the trainee's transmitter and the display will alternate between showing PC (data connection mode) and the model name (MOD), see image (right).

Linkage Display

Next, turn on the Trainer's DEVO-7. Select the newly copied model data using the MODEL menu. Bind to the aircraft and make a small test flight to confirm the aircraft is operating normally. Turn off the power and insert the digital signal wire into the trainer's DEVO-7 DSC port. Turning back on the power will automatically put the DEVO-7 into training mode.

(3) Training channel setup

The trainer is able to limit the number of channels that the trainee has control over via the training menu on the DEVO-7.

Enter the FUNCTION menu and use the DN key to select the TRAIN sub-menu, press ENT. Use UP or DN keys to select the control channel, use R or L to toggle between INH (do not permit trainee access) and ACT (trainee is permitted to control this channel). Press EXT to exit when finished.

(4) Usage

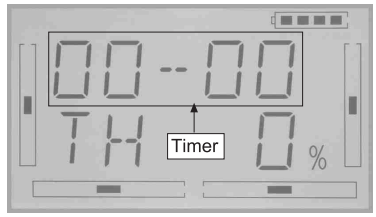
The training switch is on the top left corner of the DEVO-7, marked HOLD/TRN, as shown in the image below:

The throttle output of the trainee's radio is displayed when training

During flight, if the trainer moves the switch into the TRN position control will be passed to the trainee. On the trainer's DEVO-7 screen, the output from the trainee's DEVO-7 is displayed. If the trainer operates the TRN switch once again, the trainer regains full control of all aircraft functions .

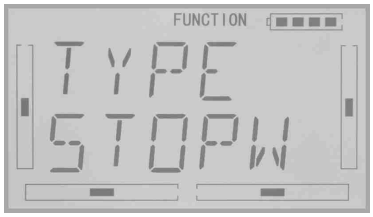
3.20 Timer(TIMER)

There are two timers on the DEVO-7, stopwatch and countdown timer. These timers are activated by the UP button in normal DEVO-7 operation mode.

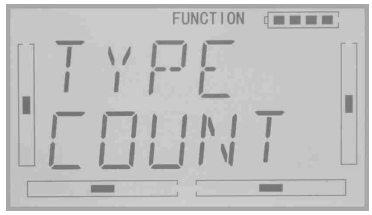


Setting method:

Enter the FUNCTION menu and select TIMER, press ENT. Use R or L to toggle between Stopwatch mode or Countdown mode.

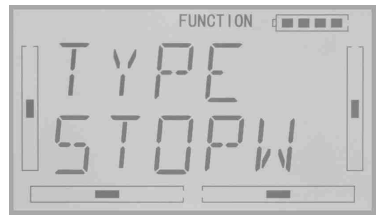


Stopwatch interface



Countdown interface

(1) Stopwatch setting

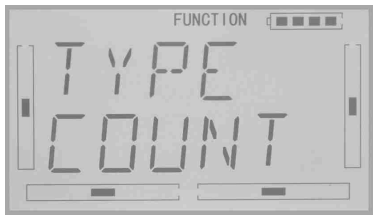


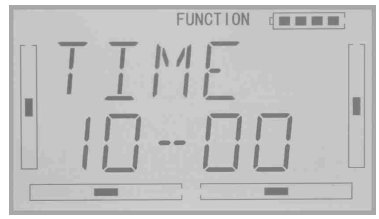
If TYPE is set to stopwatch as shown right, there are no other values to be set. Press EXT to exit.

The operating range of the stopwatch is 59 minutes 59 seconds.

(2) Countdown setting

Use R or L to chance from STOPW to COUNT. Press DN to display the starting value of the countdown timer. Use R or L to increase or decrease the timer value in 5 second intervals. The permitted range is from 00:05 (5 seconds) to 59:55 (59 minutes, 55 seconds). Press EXT to exit.

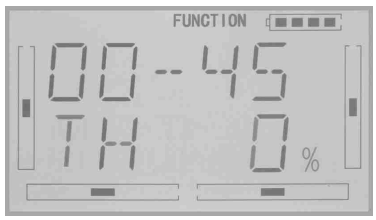




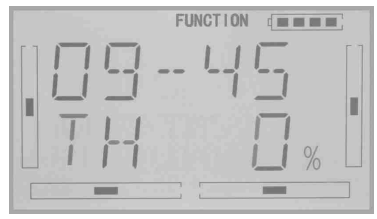
Press DN on above interface to enter countdown.Press R or L to set countdown. The countdown rang of is from 00:05-59:55.

(3) Usage

Use the UP key to start and stop the timer. Use DN to reset the timer.



Stopwatch interface



Countdown interface

deVention

DEVO 7

Part four
Upgrade interface

DEVO-7 can upgrade the Firmware via UP02 .

1.0 Firmware Upgrade (Windows PC only)

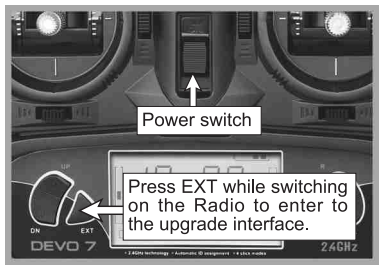
The DEVO-7 firmware can be upgraded using the UP02 connector.

1.1 Insert the USB plug of the UP02 into a spare USB port on your computer

1.2 Run the UP02 program (available for download from www.walkera.com) and follow the instructions provided in the UP02 upgrade manual.

1.3 Insert the 3.5mm diameter audio jack plug into the Devo-7's DSC port as shown below.

1.4 Enter DFU upgrade mode: Turn off the transmitter, then press and hold the EXT button and turn on the power.



1.5 When the transmitter starts, -UPGRADE- will be displayed in the LCD as shown below. The transmitter in now ready to be upgraded. Continue the upgrade operation in the UP02 application on the PC.

This symbol indicating separate collection for electrical and electronic equipment.

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The specifications of the R/C Product may be altered without notice.