

# Example Programming for The Spektrum DX6e Transmitter By George Krueger 3/1/2018



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# Example Programming, DX6E

The Spektrum DX6e is a popular transmitter, but for some, the programming is difficult. Presented here are examples of programming for some common functions. We presume you have already used your transmitter a bit and have some familiarity with its basic operation, can name your model and can get it to operate in a basic way. You're now ready to program some of the more sophisticated features but find the instruction book confusing. Hopefully these sample program steps and sequences of associated transmitter screens will help.

For our example, we will name an artificial "airplane" and then program the flight controls and switches in a typical way. By replicating the various screens with your own transmitter you will gain a basic understanding of the methods and can then apply them to airplanes of your own.

To validate your programming, I earnestly recommend that you construct a "breadboard" of a receiver, 6 servos and a battery. These servos represent those in your artificial "airplane" and watching them move will confirm that your programming is correct (or not!). They will also let you experiment with some "trial and error" changes without the danger of corrupting the programming for an actual aircraft.

Our example airplane will be named "Acro 1Ail Retr Flap". This means a conventional acrobatic or military airplane model with 1 channel for ailerons (using a Y-harness in the plane), retractable landing gear and operating flaps.

Channel assignments for the receiver will be: 1-Throttle, 2-Ailerons, 3-Elevator, 4-Rudder, 5-Gear and 6-Flaps. The battery or electronic speed control is plugged into a Y-harness on channel 1

Switch assignments at the transmitter will be: Right Stick-Ailerons and Elevator, Left Stick-Rudder and Throttle, Switch A-Landing Gear Retract, B-Rates and Expos (3-positions), C-unused, D-Flaps (3-positions), F-Throttle Cut or Electric Motor Cutoff.

We will program control mixes of Rudder to Elevator and Rudder to Ailerons.

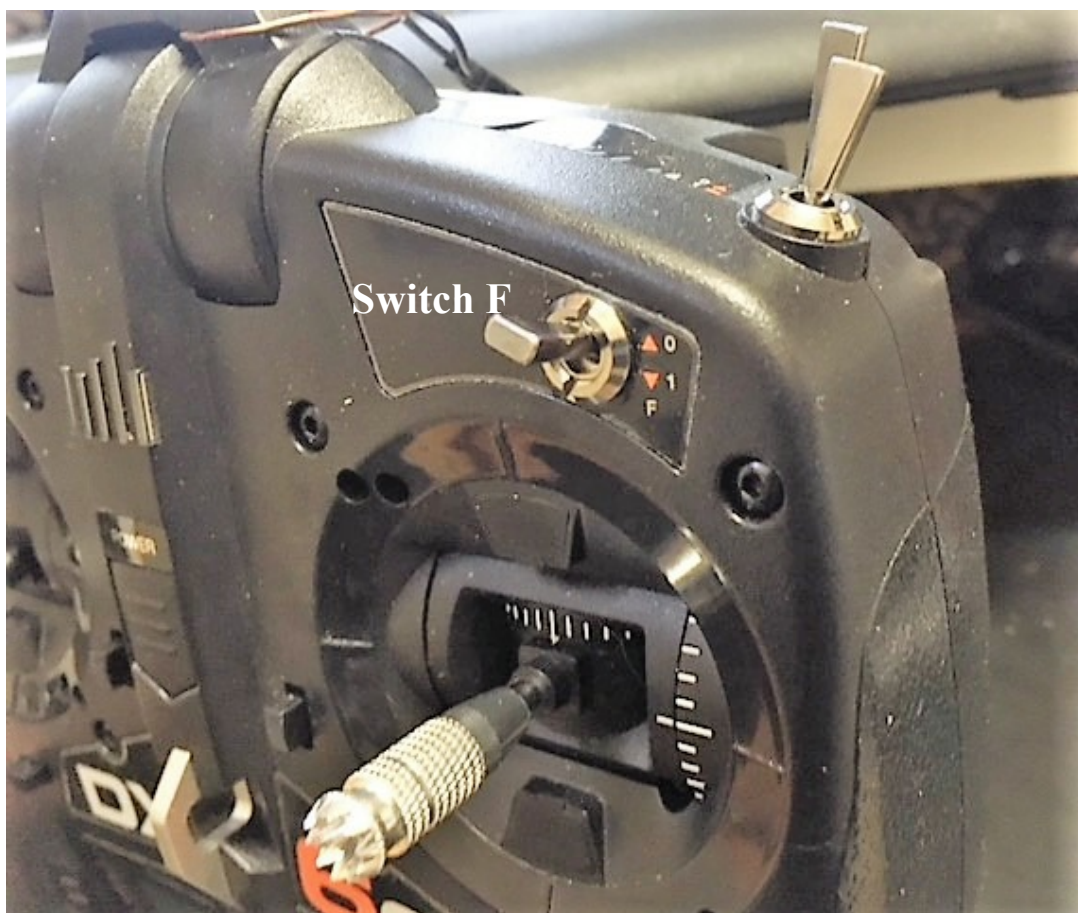
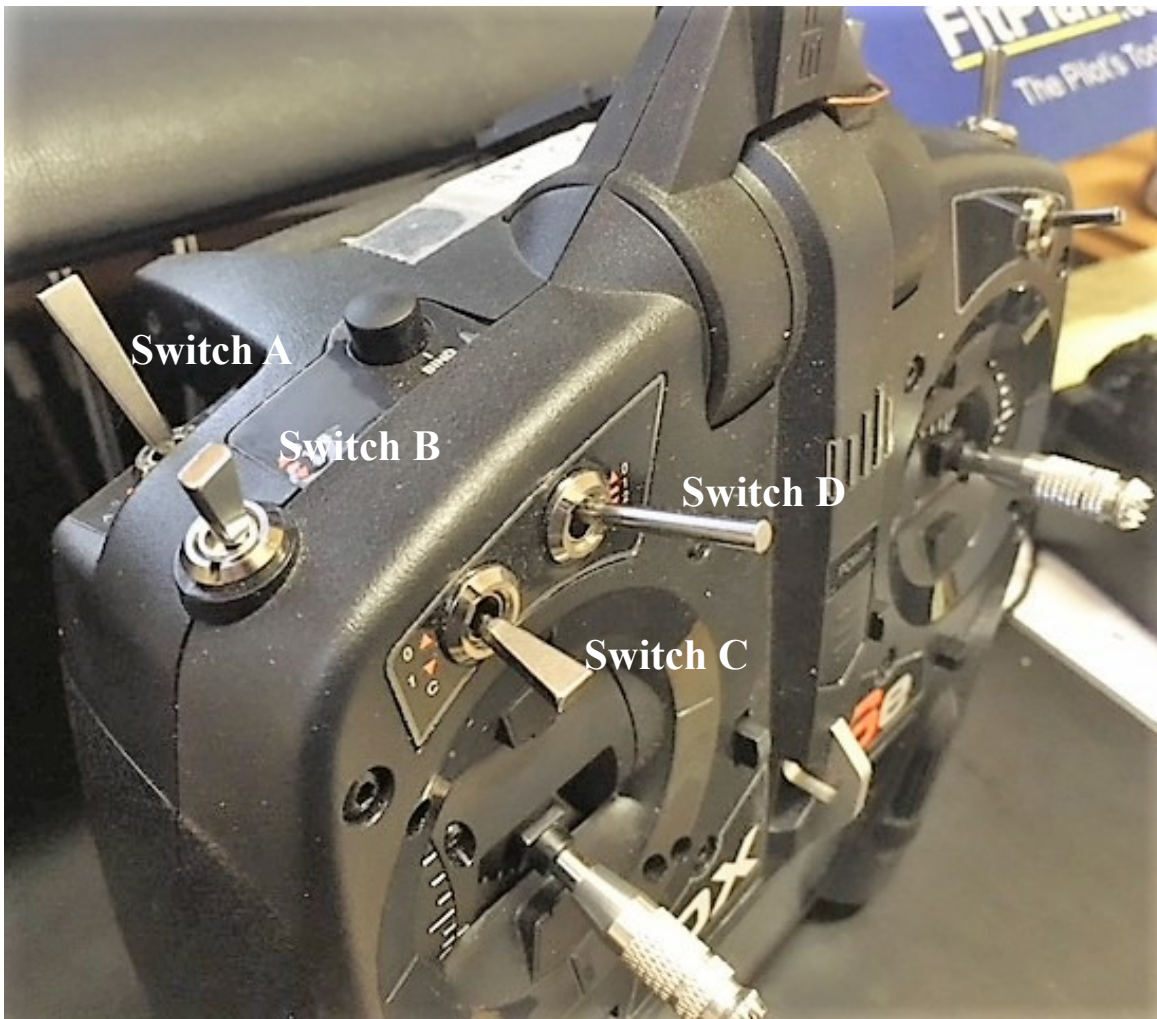
Servo direction reversing will be applied to the throttle and elevator servos.

Subtrim will be applied to the elevator servo.

A flap system will be programmed, with an elevator mix at two flap positions.

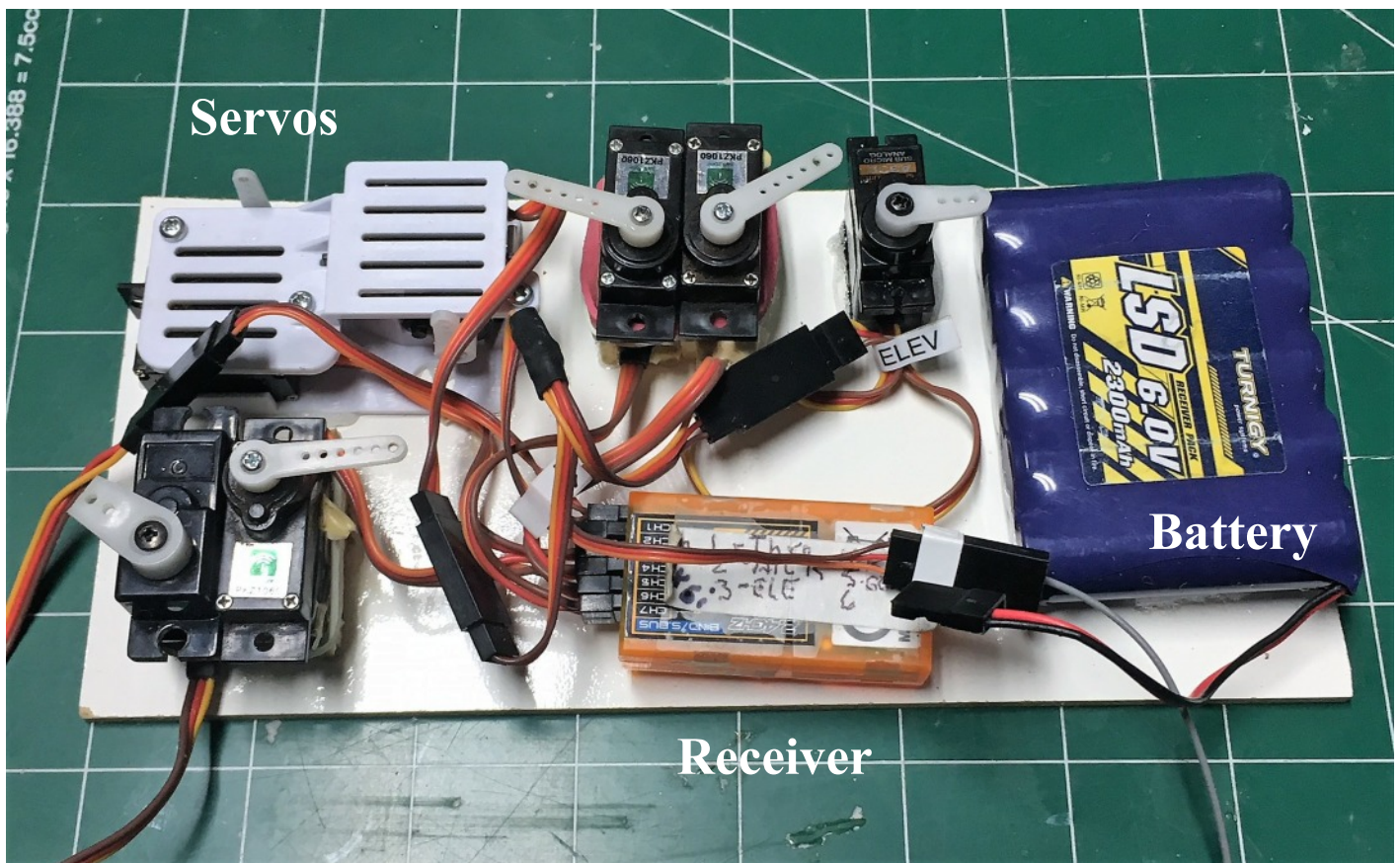
The following screens depict how this is accomplished. You already know that programming involves using the scroll wheel to move the cursor to the different functions or to change numerical values, then pressing the scroll wheel to select the function or to set a numeric value. Programming is accomplished with a pattern of "Press, Scroll, Press" with the scroll wheel.





# Receiver/Servo “Breadboard”

Replicates aircraft installation. Used to confirm transmitter settings with actual servo motions.

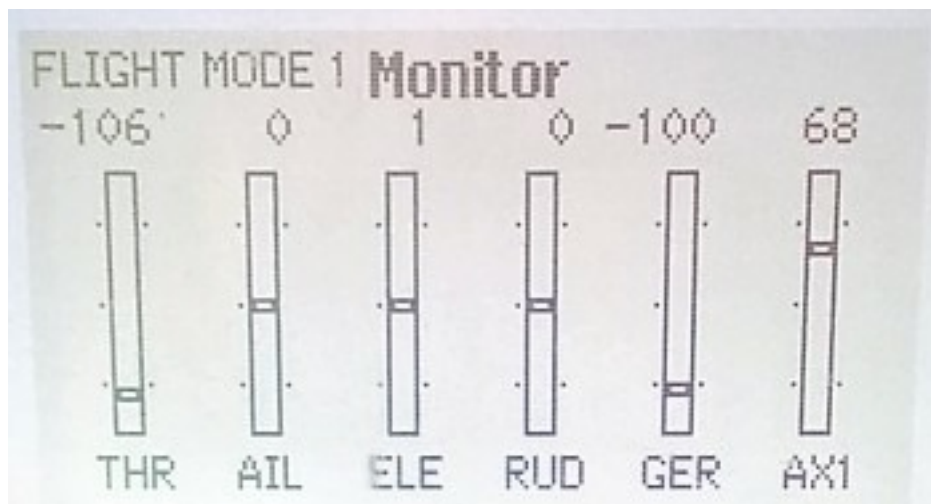




# Programming the Spektrum DX6E



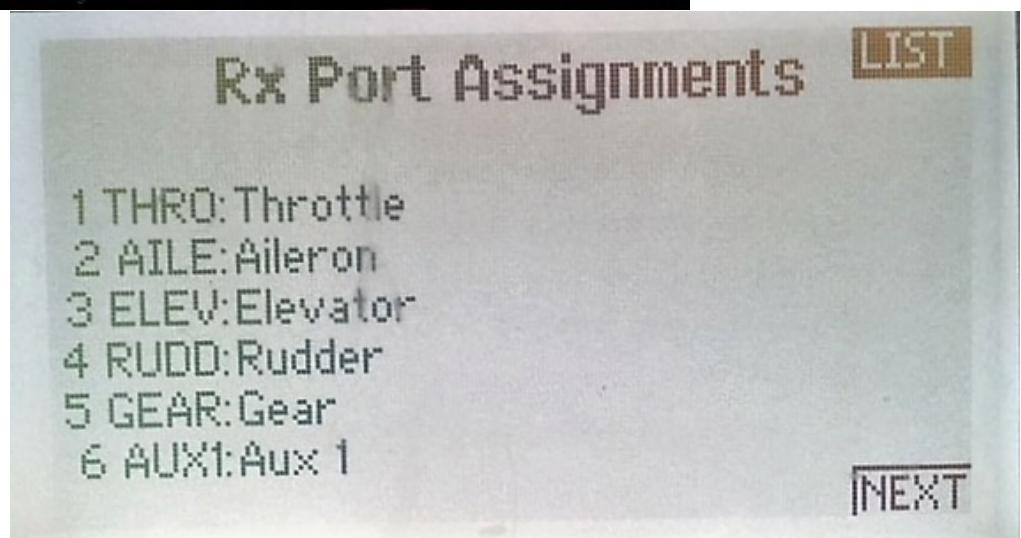
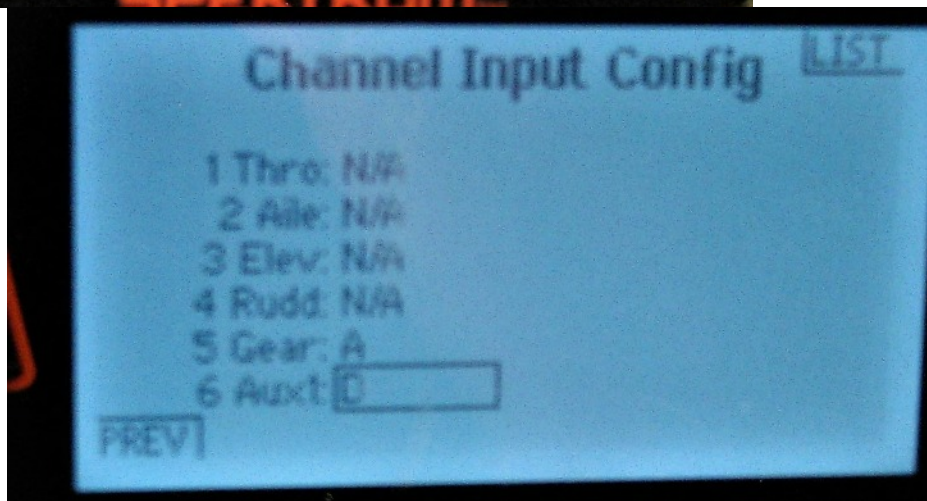
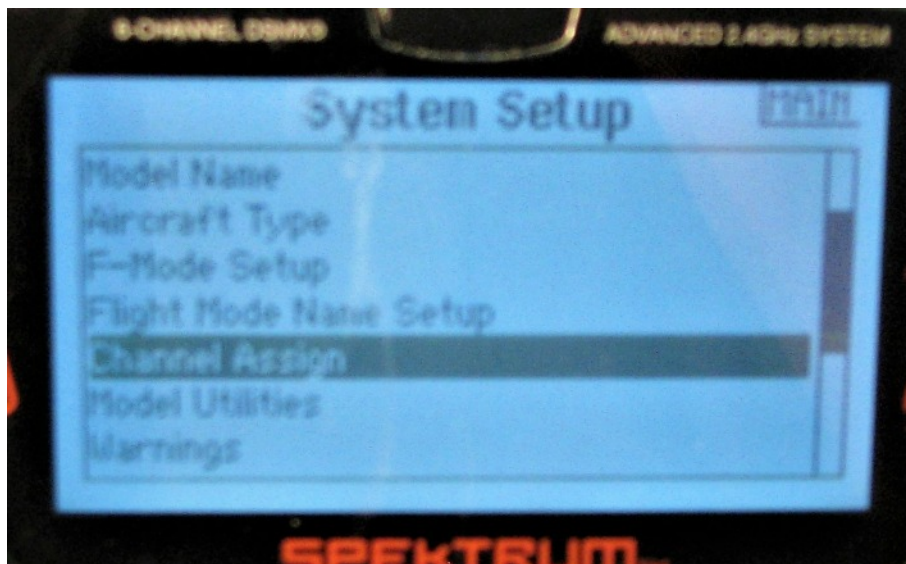
Main Screen



Flight Monitor: Main Screen > Scroll one click.

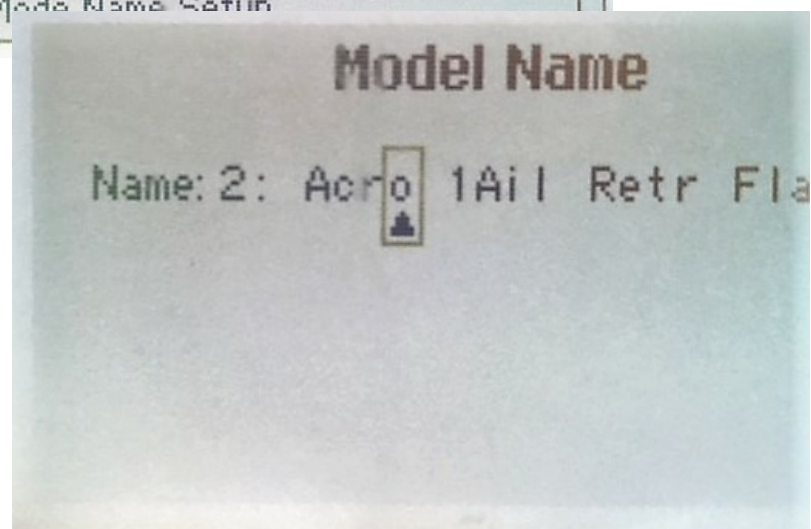
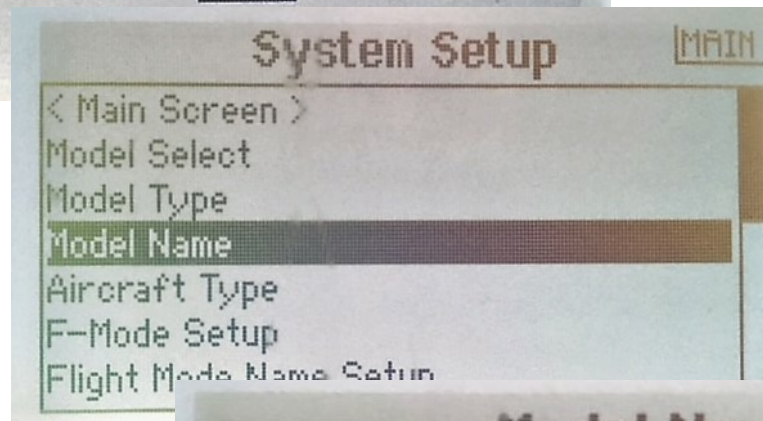
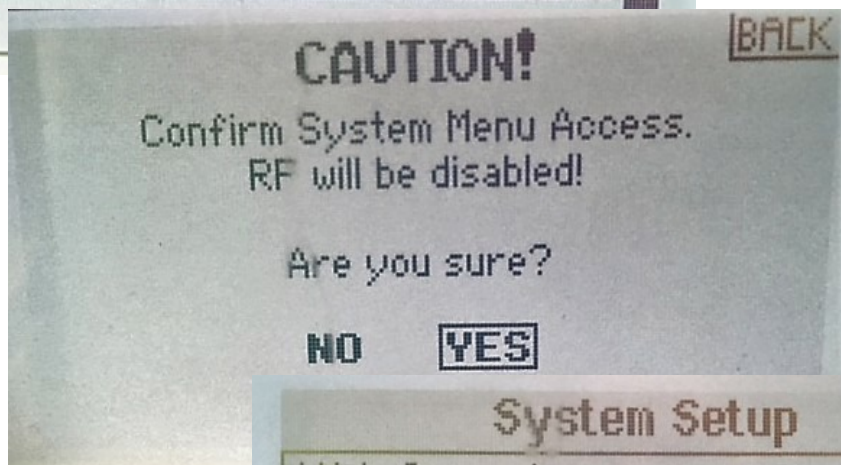
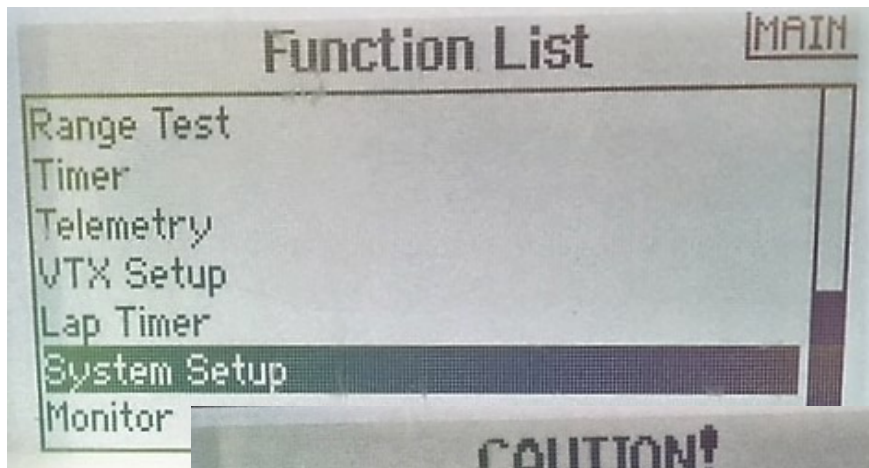
# Set Transmitter Input and Receiver Output Channels

Main Screen > Channel Assign > Channel Input Config. Scroll > Gear > Scroll > Switch A>Press to set.  
Similarly set Aux 1 to Switch D.



# Create Model Name

Name the model we wish to use. Use the Scroll and Press technique to select the following screens and create the model name.

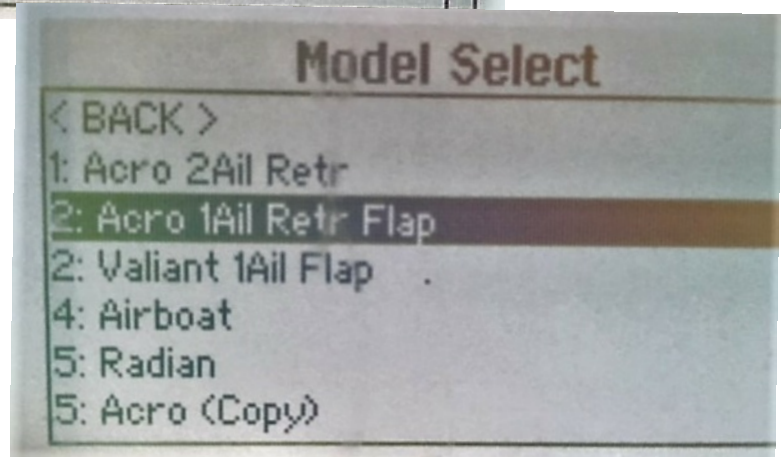
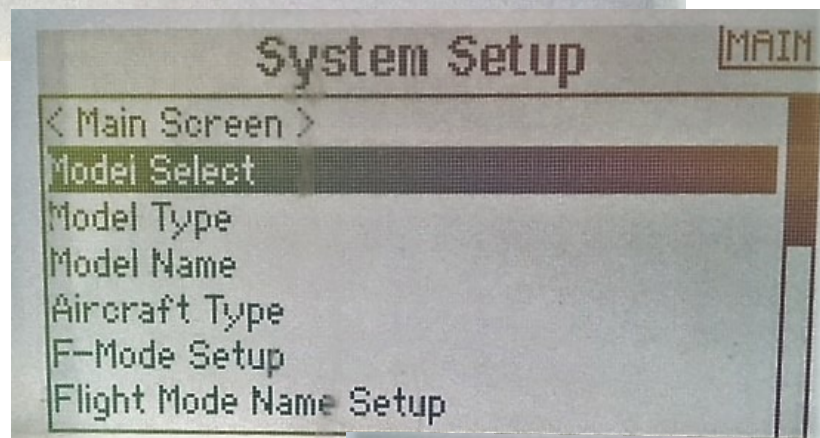
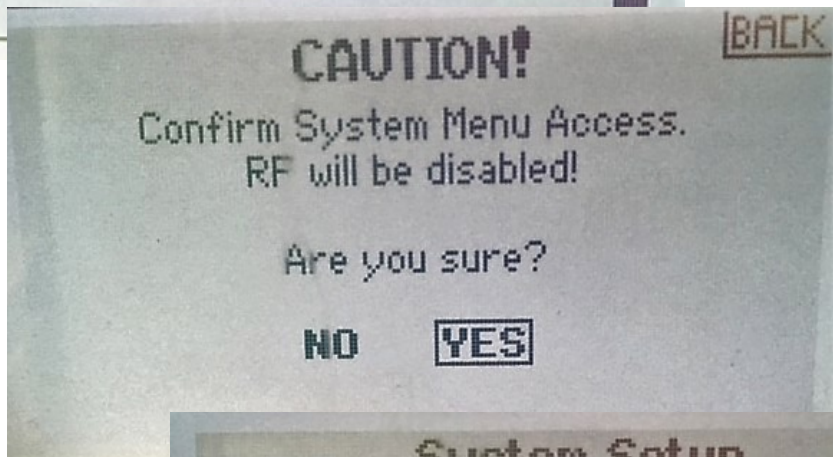
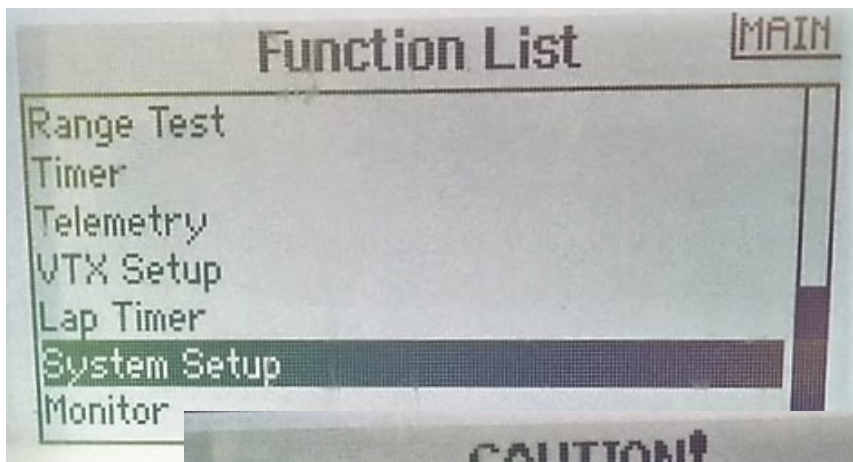




# Set Up Model Selection

Main screen > System select > .Yes >.

Model Select > Acro 1Ail Retr Flap.



# Direct Access to Model Selection

Simultaneously pushing the two keys to the left of the screen brings up the Model Select page.



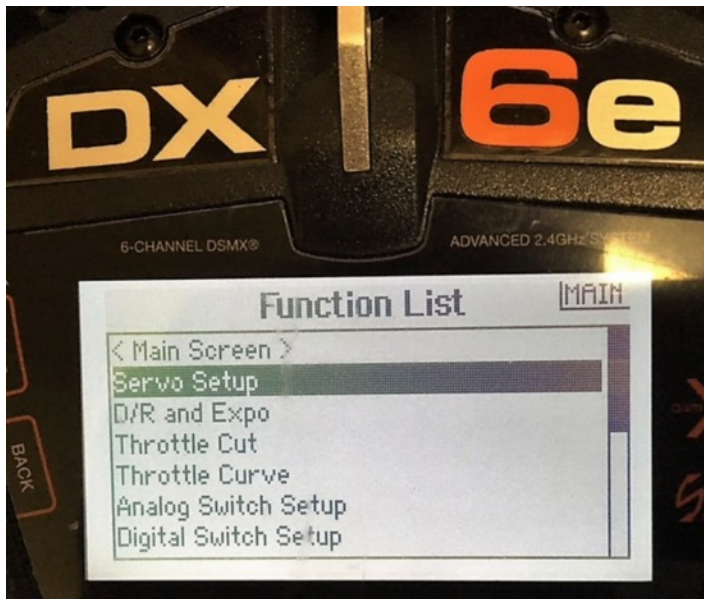
# Servo Setup

Set up servo parameters: Main Screen > Servo SetUp > Travel > Press.

Servo travel is set by pressing Travel, moving the cursor to the desired control, then holding the appropriate control stick at full deflection while scrolling to a desired value..

Subtrim is set by highlighting the control function, then scrolling to the desired value.

Reverse is set by moving the cursor to highlight the desired control, then pressing the scroll wheel to change from fwd to reverse for that control.



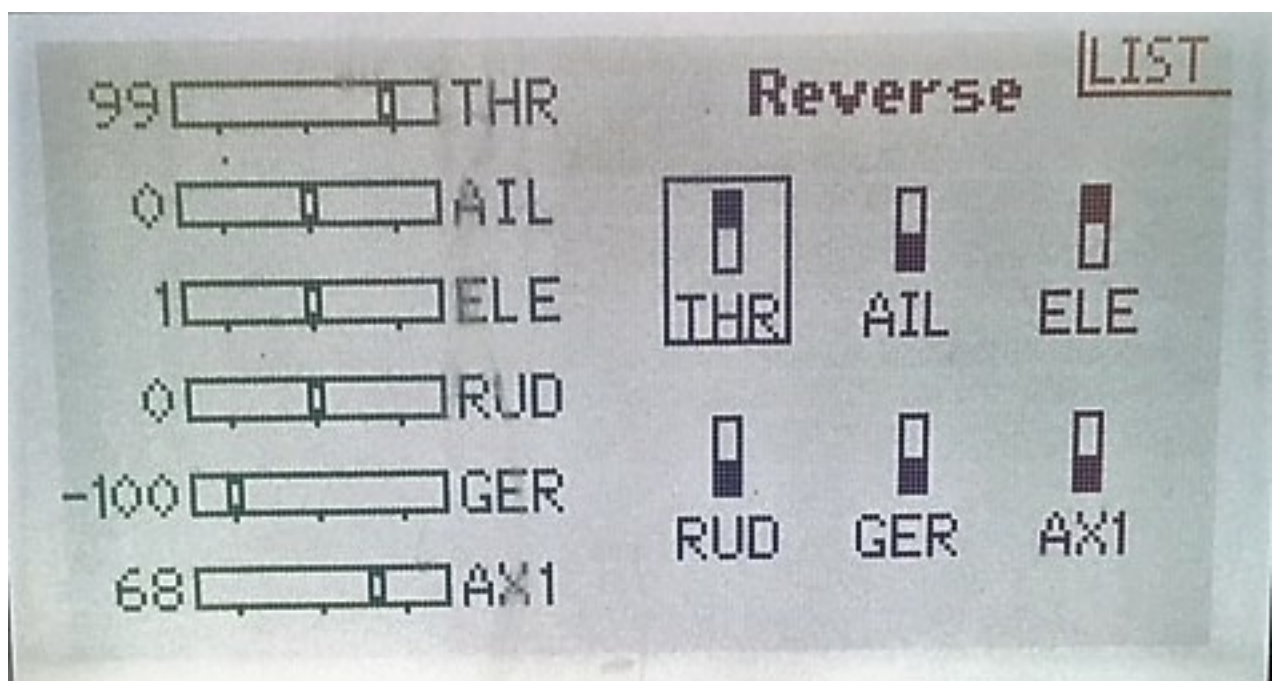
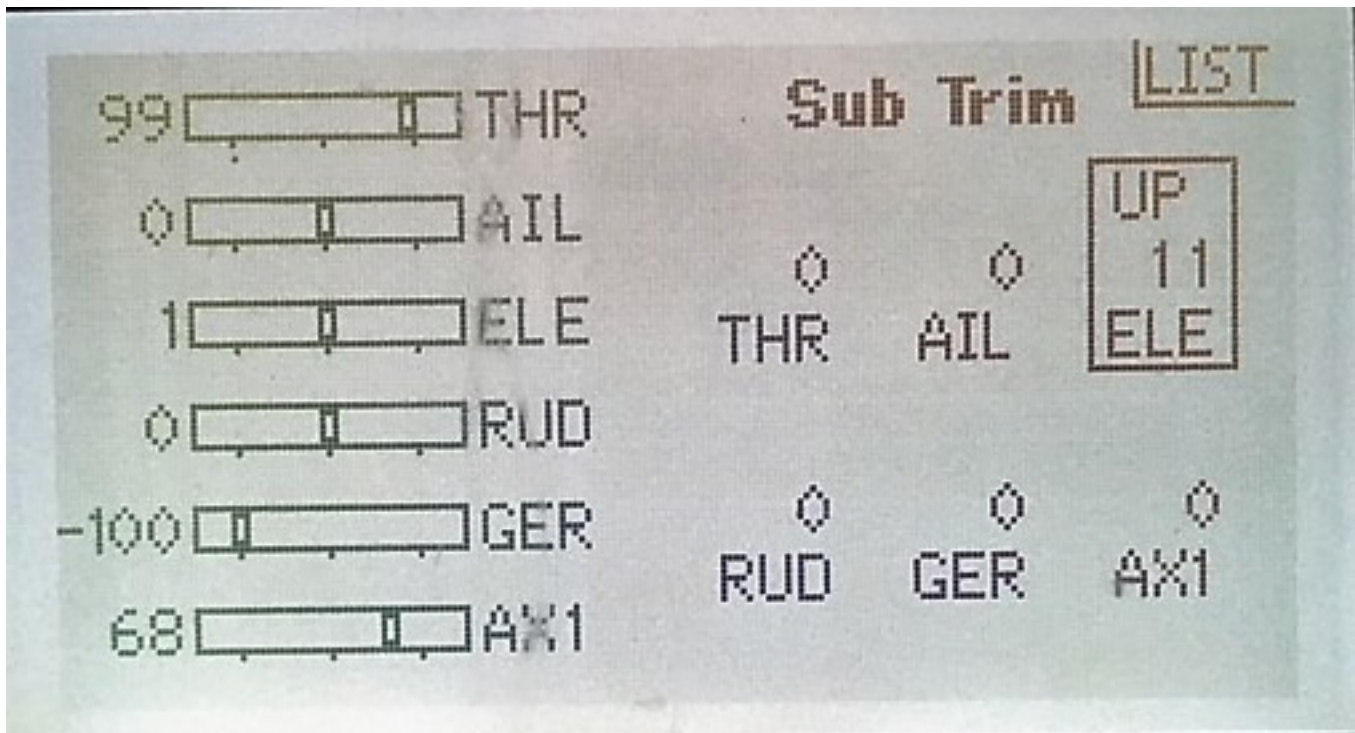


## Servo Setup, Cont.

Access Subtrim and Reverse: Servo Setup > Travel > Press > Subtrim > Press.

Subtrim is set by highlighting the control function, then scrolling to the desired value.

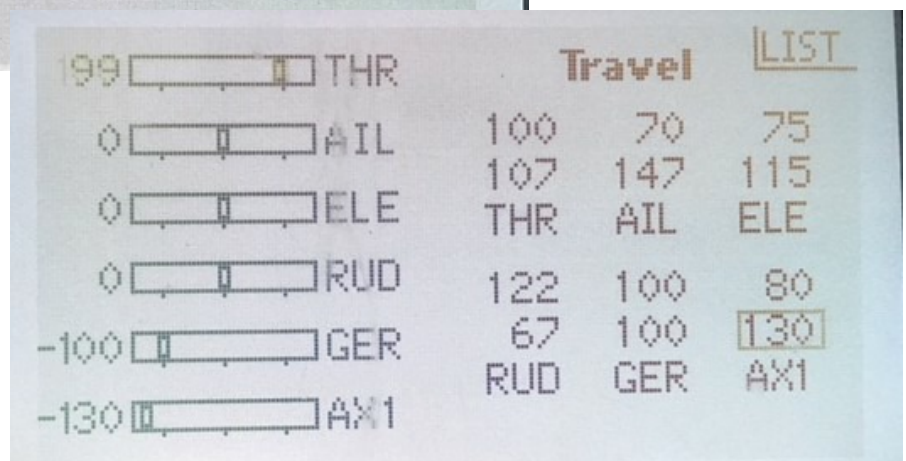
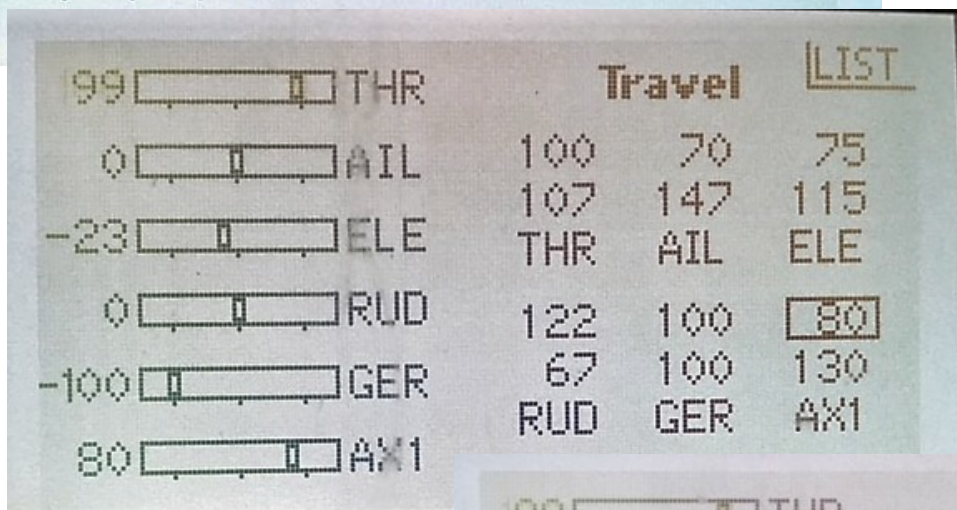
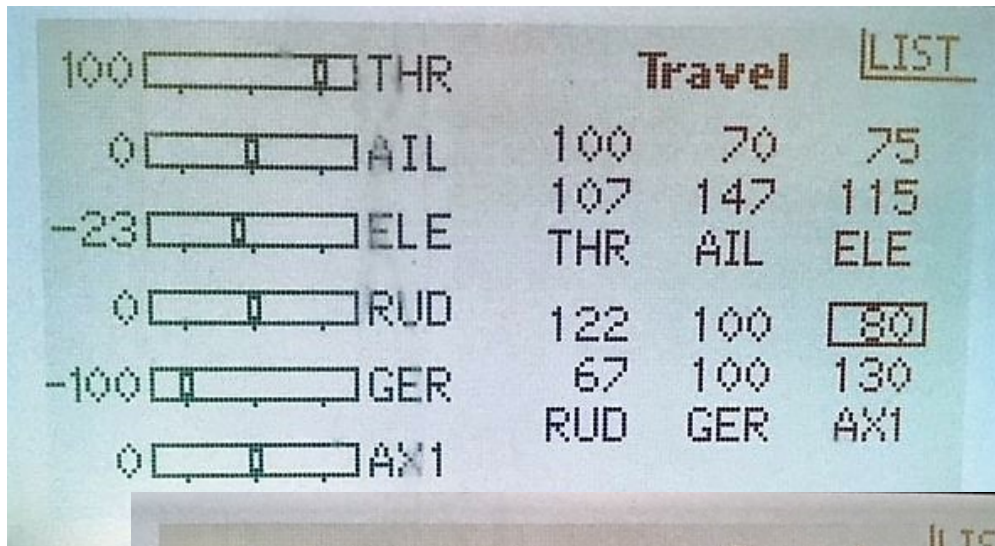
Reverse is set by moving the cursor to highlight the desired control, then pressing the scroll wheel to change from fwd to reverse for that control.



# Flap System Setup

Set up the flap system, positions and travel. In our example, AUX 1 controls the flaps on Switch D, a 3-position switch. Start with Switch D in Position 1 (center). The flap servo arm should be at its mid-point (approximately) and the flap linkage should position the flap to the Takeoff position, usually about 30% of full deployment. Flap travel then should be adjusted for Stowed at switch position 0 and Landing at switch position 2.

Use the Press, Scroll, Press method to access the following screens, set values for AUX 1 and confirm action on the slidebars as you move Switch D.





# Switch Setup

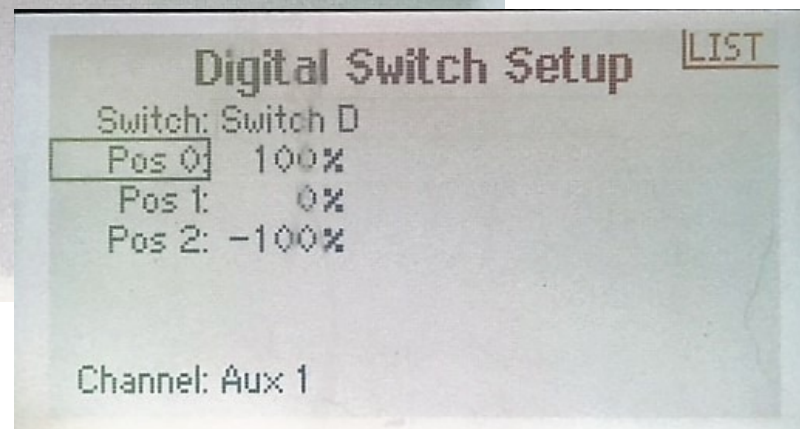
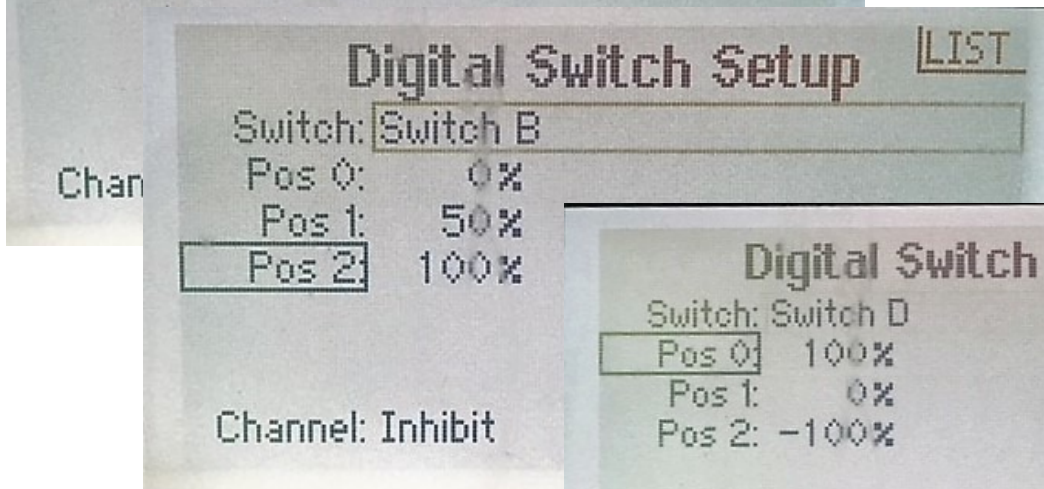
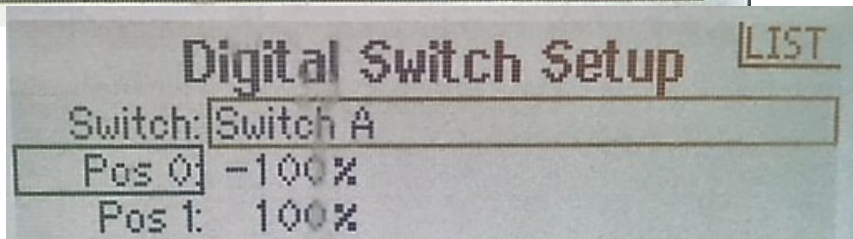
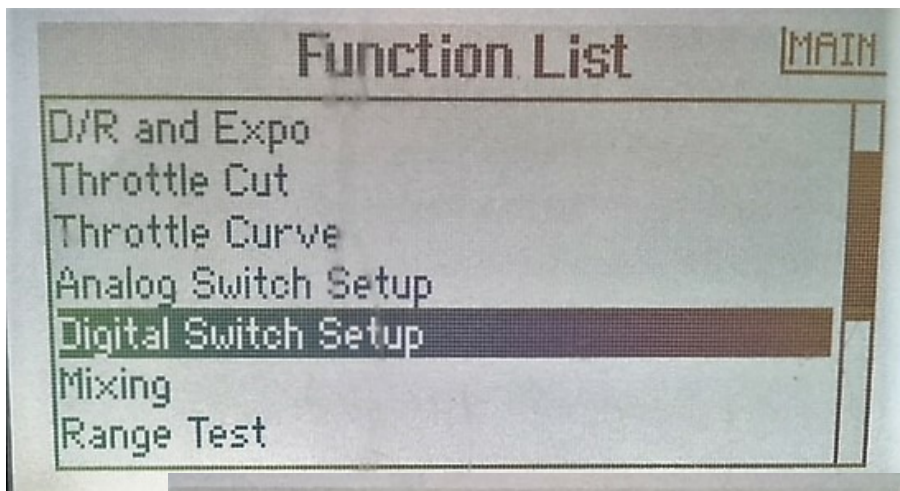
Establish the setup for the switches you will use (A, B, D and F in our example).

Main screen > Press > Scroll > Digital Switch Setup > Press > Scroll > Switch select > Press.

Scroll > Switch A > Press. Move Switch A to the 0 position. Scroll > Pos 0 value > scroll to select the value > Press.

Move Switch A to the 1 position. Set the value as above.

Repeat for the other switches you will use.





# Servo Dual Rates and Exponentials

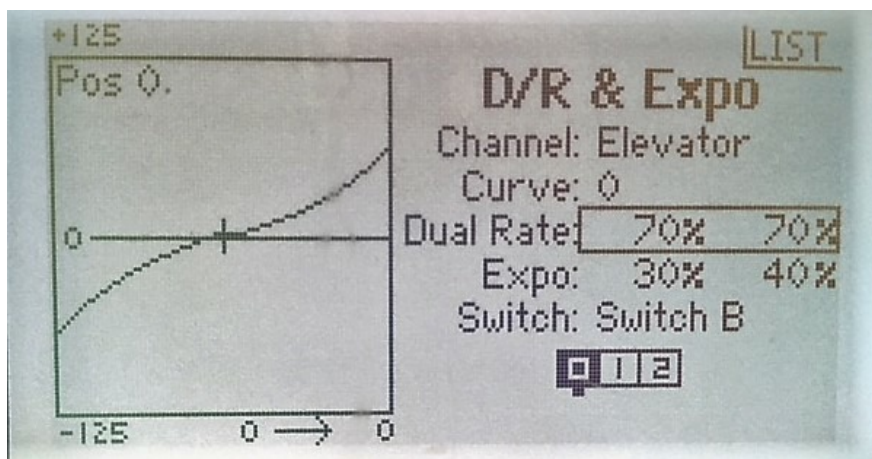
Set servo dual rates and expo's: Main screen > D/R & Expo > Press.

Set the desired control switch (in this example, all rates and expos for all control functions are selected by Switch B): As above > scroll > Switch > Press > Scroll to desired switch > Press.

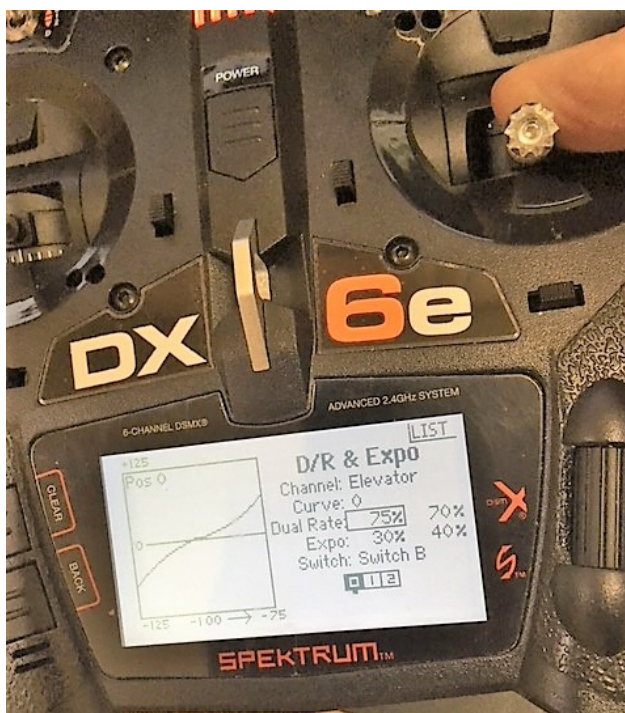
Note that all switches have positions 0,1 or 0,1,2. Set your selected switch at 0. The servo travel "curve" diagram will be labeled Pos 0, Curve 0. The switch position indicator at the bottom right of the page will have a dot under 0 in the sidebar.

To set the rate for the selected switch position: As above > Scroll > Channel > Press. Scroll to desired control function > Press. Scroll > Dual Rate > Press, Scroll > desired value, noting that both end-point values change as a pair when you scroll. > Press to set.

To set expo: As above > scroll > Expo > Press > Scroll to desired expo value, noting both values change as a pair > Press to set.



If you want to set different rate or expo values for up vs. down or right vs. left, hold the appropriate control stick at full deflection in the desired direction while scrolling for the setting value you want, as shown below for up elevator rate:

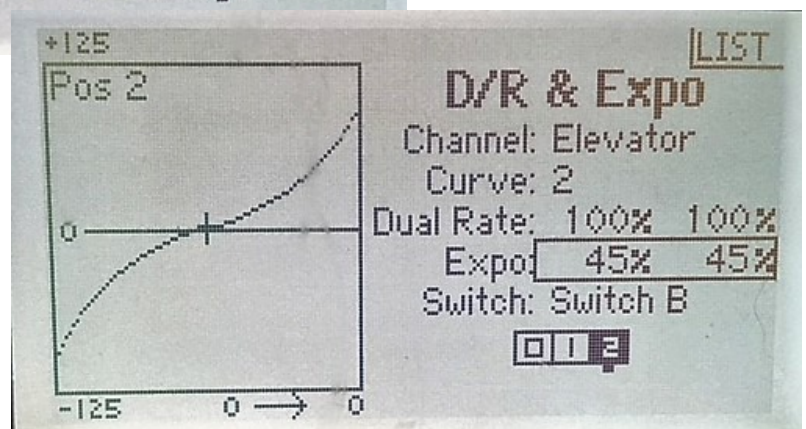
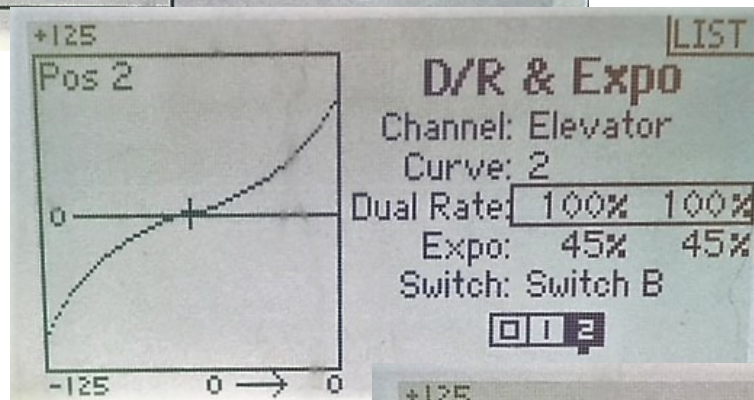
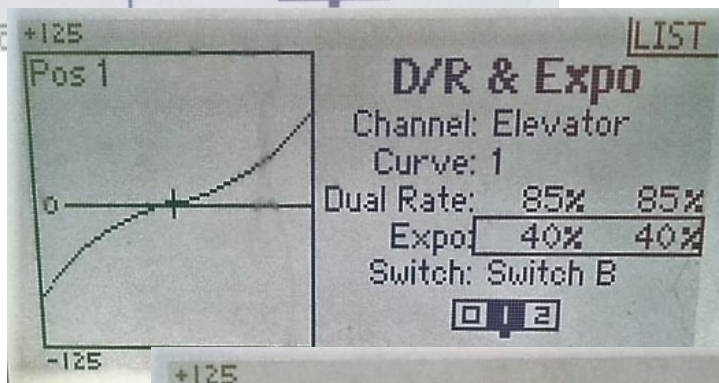
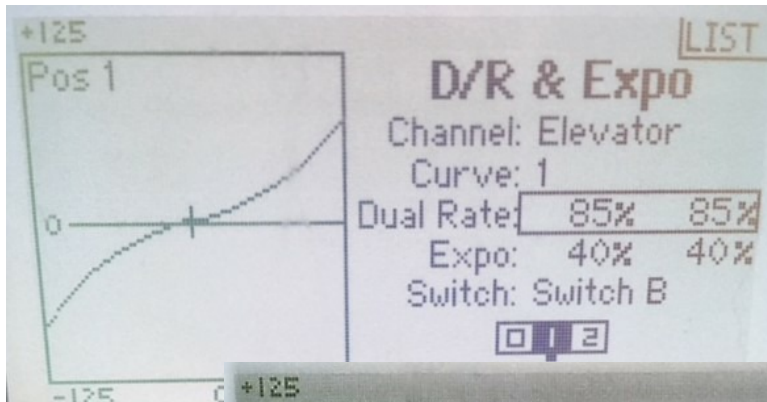


Now set the second and third set of rates and expos in a similar fashion.

For the second set of rates and expos, set the desired switch at the 1 position (Switch B in this example). The curve will be labeled Pos 1, Curve 1 and the sidebar will show a dot under the 1.

Set the rates and expos as you did for Switch Position 0. Do for all desired control function.

Move the switch to Position 2 and set the final values for rates and expos for all control functions.



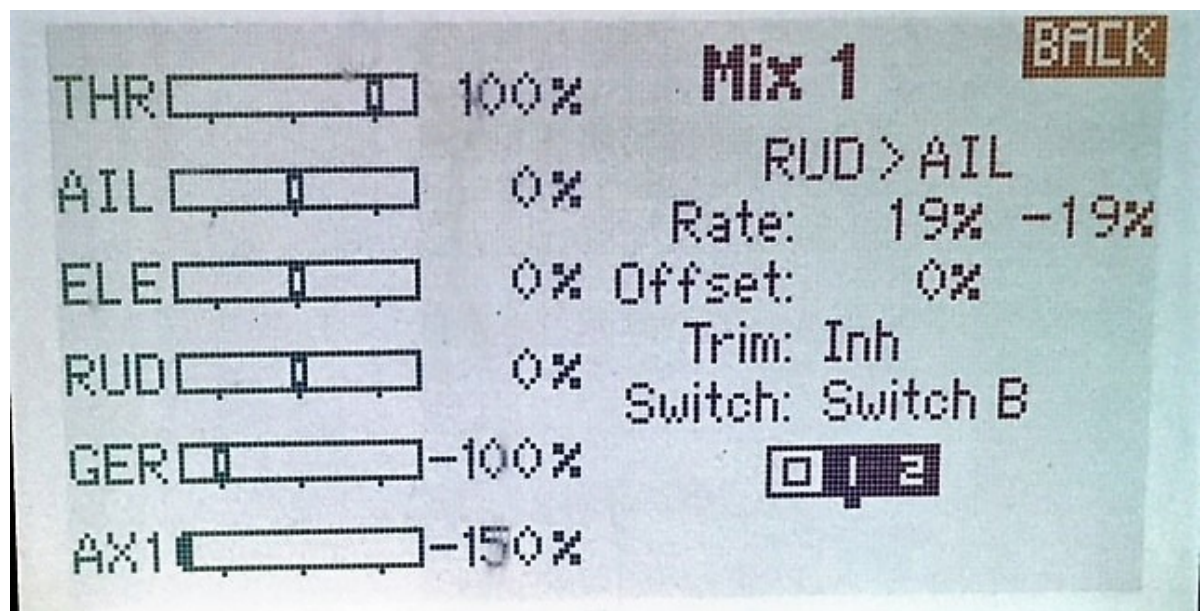
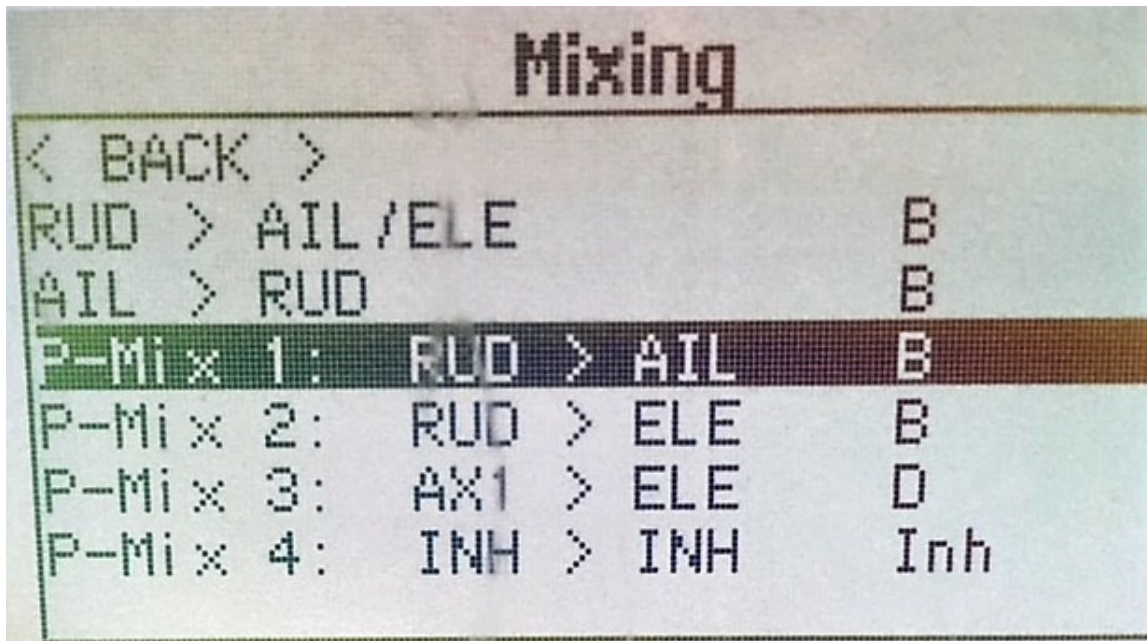


## Rudder>Aileron Control Mix

Set up a Rudder to Aileron control mix that is active at medium and high rates. The mix will not be active on low rate since that is used for takeoff and landing where most pilots prefer the controls to be totally independent.

Move Switch B to the 1 position. Main Screen > Press > Mixing > Press > Scroll to Mix 1, Rud/Ail > Press > Scroll to Rate % left > Press > Scroll to desired value > Press to set > Scroll to Rate%Right > Press > Scroll to desired value > Press to set.

Move Switch B to the 0 position. Move the cursor to the switchbar at the bottom right of the screen. Toggle the cursor until the 0 box is clear. Toggle the position 1 and 2 boxes until they are dark. The mix will then be active when Switch B is in positions 1 and 2, inactive at position 0. Confirm this by watching the sliders on the left side of the page move.





# Rudder>Elevator Control Mix

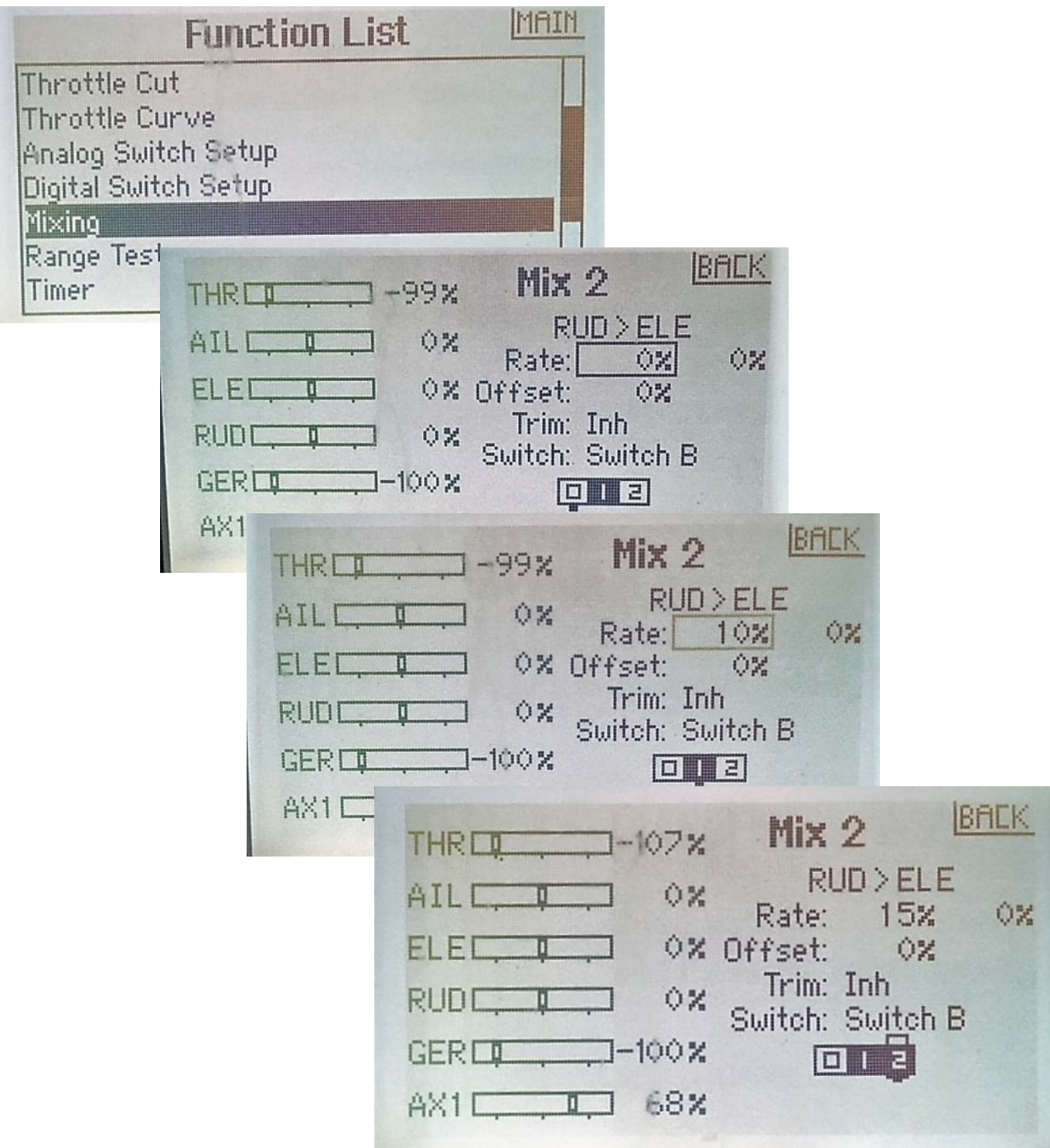
Example below mixes some up elevator with left rudder.

Main Screen > Mixing > Mix 2, Rud/Ele. Move Switch B to the 0 position. Scroll > Rate > Scroll for value > Press to set.

Move Switch B to the 1 position. Set rate to desired value as above.

Move Switch B to the 2 position. Set rate to desired value as above. Move the cursor to position 2 on the switch sidebar (lower right on screen) and Press to activate that switch position.

Repeat for values for right rudder.



## Flap > Elevator Mixing

Our example uses one radio channel to control the flaps.. In the airplane, if using two servos for flaps, connect them to the receiver channel with a non-reversing Y-harness. Our example shows 12% down elevator at the Takeoff position and 20% down elevator at flap full deployment (Landing position).

