# Programming Guide for the JR XP9303 for the Hangar 9 Ultra Stick

To start with, plug your servos into the correct channels. Below is a listing of what servo to plug into each channel. You will need a 7-channel receiver to use the full set up that the 9303 is capable of doing with the Ultra Stick.

Ch. 1 Throttle
Ch. 2 Right Aileron
Ch. 3 Elevator
Ch. 4 Rudder
Ch. 5 Left Aileron (Listed as Gear Channel on Receiver)
Ch. 6 Right Flap (Listed as Aux 1 on Receiver)
Ch. 7 Left Flap (Listed as Aux 2 on Receiver)

## System Set-Up Mode

To begin setting up the transmitter, press and hold the ENT key, and turn the 9303 on, then release the ENT key.

### Model Selection

Press down on the roller with Model Sel highlighted, and select the model you want the ultra stick on by pressing the rolling selector and rolling through the models, and select the model you want to use by pressing the roller.

### Model Reset

Now press the LIST key and scroll through with the roller until you get to MDL Reset. Press down with the roller to enter model reset, and then press the CLR key, then the bottom key to answer yes.

### Model Type Selection

Press the LIST key, scroll with the roller to get to Type SEL and enter type selection by pressing down on the roller. Scroll with the roller until ACRO is highlighted, and press the roller to select ACRO, and then press LIST.

### Modulation Selection

Set the modulation as needed to match your receiver by scrolling with the roller to select MODULAT, pressing down on the roller, pressing down on the roller again, select SPCM or PPM with the roller, then pressing the roller again. Press LIST to return to the system menu.

### Device Select Set Up

Now scroll through with the roller until Device SEL is highlighted and press down on the roller to enter device select. Scroll with the roller until INH is highlighted under where it says FLIGHT MODE. Press down on the roller, highlight FLAP SW with the roller, then press down on the roller. By moving the roller to the right, you can set trims to COM where you will have the same trims for all flight modes, or to FM where you will have a new set of trims for each flight mode. These are optional, set them as desired. By again moving the roller to the right, it will highlight SW next to D/R, here you can set this to SW so that the dual rates are on individual switches, or to FM where the rates will be on the flight mode switch. Here again, this is an option, and can be set as desired. Move the roller to the right until ON is highlighted in the FLAP column. Press the roller to make this say OFF. Scroll to the right to get to the bottom row in the gear column, and press the roller until this says INH next to where it says OUT. Then scroll to the right one line to the bottom row of the FLAP column so that it is highlighted. This should say SYS, if it says INH or ACT, press the roller until this says SYS. Move the roller to the right one position at a time, and press the roller at each channel (aux2, aux3, and aux4) and make them all say INH. On the bottom row of the screen it should read from left to right: OUT INH SYS. INH INH INH

### Wing Type Set Up

Now press the LIST key, move the roller to the right to highlight Wing TYPE and press down on the roller to enter the wing type function. Move the roller to the right until INH is highlighted under AILE next to where it says MATE. Press down on the roller, then select GEAR with the roller and press down on the roller. Then move the roller to the right until INH is highlighted under FLAP in the same row as where it says MATE. Press down on the roller, roll the roller to highlight AUX2, then press down on the roller to select it.

This completes the system set up mode, press the ENT key to exit the system mode.

## Function Mode

Next we will set up the function mode of transmitter. Press the LIST key to enter the function list. After completing each step below, press the LIST key to get back to the function list.

### Dual Rates and Expo

Set your Dual Rates and Expo as you desire. Move the roller to D/R & EXP function and enter it by pressing down on the roller. Set these as desired. Always use a positive value for expo, as a negative value will make the control response more sensitive around center and could cause you to over control the plane and crash. 30 percent expo on aileron, and 25% on elevator and rudder is recommended to start with. Set your low rates around 70% to start with, and change to your tastes.

### Servo Reversing

Set your servo reversing correctly so that each surface goes the correct direction. Do this by moving the roller until you get to REV SW and press down on the roller to enter the reverse function. If the flaps go up with the flap switch in the down or LAND position, reverse the direction of channel 6 (FLAP) and/or channel 7 (AUX 2).

## Sub Trims

Set the sub trims as required leveling the control surfaces. Scroll with the roller until you get to the sub trim option and press the roller to select the sub trim function. Try to keep these as close to zero as possible. Using too much sub trim can result in running out of travel on the servos, and the possibility of over-driving the servos.

## Travel Adjustment

Set the travel adjustments such that you get the control movements required. Consult your Ultra Stick manual for the required control surface travels. You may need to use 1" long servo arms to achieve the maximum travels listed in the manual. Try to use as high a travel adjustment value possible to achieve the throws so that you use as much of the servos travel as possible. Scroll with the roller until you get to the travel adjustment option, and press the roller to enter the function.

## Elevator to Flap Mixing

Move the roller until ELE->FLP M is highlighted, and press down on the roller to enter the function. Rotate the roller until MIX is highlighted; press down on the roller to move the shaded box under MIX to the top or Pos 1. Rotate the roller until DN is highlighted next to Pos1. Press down on the roller, and rotate the roller until you get to about 35 percent. If the flaps go down with down elevator, reverse the value from +35 to –35 or vice versa. Press the roller again after you have finished setting the DN percentage, and then move the roller to the right so that UP is selected and press down on the roller. Rotate the roller until you get to about 35 percent. If the flaps go up, reverse the value from +35 to –35 or vice versa. This will give you flaps mixed to the elevator for tight loops, etc.

## Flap System

Scroll through the menu until FLAP SYS is highlighted, and press the roller to select this function. Scroll through with the roller until LAND is highlighted next to ELEV. Press down on the roller, then rotate the roller to make the elevator goes down ¼" in the LAND switch position, then press the roller down again. The rotate the roller to highlight NORM next to FLAP. Press down on the roller until this says U 50%. Adjusting this value will adjust how far the flaps will go in the center position, though you can also make small adjustments to the MID position next to flaps later for final set up. Center the flap servos after setting this position, with the switch all the way up. This is done so that you will not run out of travel for aileron to flap mixing for fast rolls. Now rotate the roller until LAND is highlighted next to FLAP, press down on the roller, and set this value as needed to get the flap travel with the switch in the land position.

## Aileron to Flap Mixing

Scroll through the menu until PROG. Mix 3 is highlighted and select it by pressing the roller. Press the CLR key to activate the mix, rotate the roller until the first channel is highlighted (it should say THRO), press down on the roller, rotate the roller until AILE is highlighted, and press the roller again. Rotate the roller until the second channel is highlighted (it should say THRO), press down on the roller, rotate

the roller until FROL is highlighted, and press the roller again. Rotate the roller until MIX is highlighted, and press the roller to move the shaded box to the top under MIX. Rotate the roller until you get to Pos1, and set both values to +100% by pressing the roller, then rotating the roller while holding the aileron stick in one direction, then move the aileron stick in the other direction and repeat.

**Flap to Aileron Mixing**

Scroll through the menu until PROG. Mix 4 is highlighted and select it by pressing the roller. Press the CLR key to activate the mix, rotate the roller until the first channel is highlighted (it should say THRO), press down on the roller, rotate the roller until FLAP is highlighted, and press the roller again. Rotate the roller until the second channel is highlighted (it should say THRO), press down on the roller, rotate the roller until FPRN is highlighted, and press the roller again. Rotate the roller until FM2 is highlighted, and press the roller to move the shaded box to the top under FM2. Rotate the roller until you get to Pos1, press down on the roller, Move the flap switch to the LAND or full down position (Flight Mode 2) and set the percentage as necessary to get the ailerons to move up ¾" as mentioned in the manual.