

A POWERFUL METHODE TO SET UP A GLIDER WITH JETI DS-DC RADIO

Autor : Jérôme Bilquey

With some help (André Lambert, Ivan Moquereau, Daniel Pinoteau and Richard Gadan)

And many ideas from many users (Jean Michel, Claude, David, Robin, Miko,... thanks a lot !!)

Translation from french to English : Miko Montanari

Janvier 2015

ATTENTION :

- ☐ If it is your first steps with JETI, I'm not sure it is the good document to start with. Come back later when you know the functions of your Tx.
- ☐ For foamies, 2 axes models or for very simple planes without mixes, it is not the right document too... I'm sorry even !!
- ☐ Just an other word : this methodology is far different and is going to change some old paradigms you have in the way to set up a glider. I apologise ;-)

For who ?

- ☐ Competitors will enjoy.
- ☐ For everyone who need wide fonctionality, going deep in the JETI possibilities.
- ☐ If you love efficiency
- ☐ Can be used in every gliders (F3b, f, l, j, k, and also for scale models, ...)

About the Autor :

My father taught me how to fly 30 years ago. And he learned from his Uncle some decades before. I am a competitor in several categories. I've got the second place at F3A French champion chip, 5 times the first place at hot air ballooning (F7A) French champion chip. And since 2011, I used to fly exclusively F3J and F5J... still a lot to learn about aerology and gliders.

In 2014, I bought a DS16 after 18 years with a MC24 and 2 years with a DX18, I also used other brands to help people setting up their planes. First, I was really destabilized by JETI's software. It is so much different. I didn't understand the spirit to set up a plane and the result didn't suite me (at the beginning). I asked many users, JETI's designers to get tricks and tips. I began to writes some notes and apply it. That's how I started this "How To".

Now, this document is very structured, very powerful, shared with many people that use it. At least, with the help of Miko's translation, this document can reach other country than France.

Thank you for reading!
Jérôme

Contenu

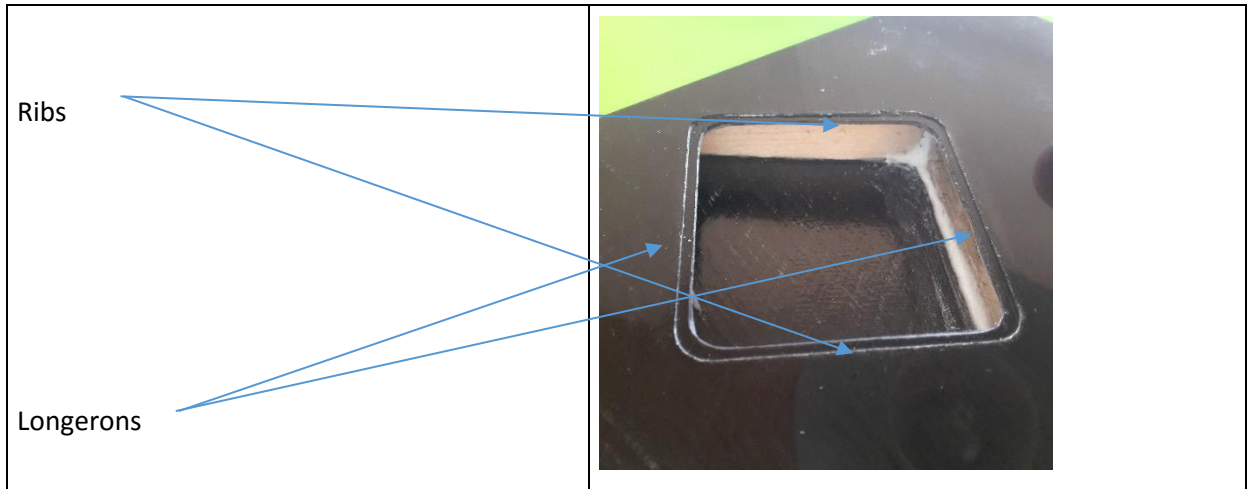
1. Preliminary	4
First step	4
Template.....	5
2. CREATE A MODEL	6
Read me first !!.....	6
Basic Properties	6
Functions Assignment	6
Servo Assignment	7
Servo Setup.....	7
SubTrim (servo center)	8
Max Positive and Max Negative	9
Max positive Limit et Max negative limit	9
Servo Balancer	9
You can start setup !! 😊	10
Functions Assignment	11
Conclusion	11
3. FINE TUNING	12
Flight Modes/Phases	12
Flight phases trim	12
Function Curves – Ailerons Differential and Butterfly - V-Tail	13
Dual Rate / Exponential and Differential.....	13
Free Mixers.....	13
The methode :	14
How to set phases trim with mixers.....	16
How to set Dual Rate with mixers	17
How to set Ailerons Differential, flaps or V-Tail.....	17
with mixers.....	17
Setting a V-Tail, Flaperon.....	19
Extension to all flight phases.....	19
How to trim	19
What to do if trim is inverted	20
Conclusion	20
4. Advanced Properties and Timers/Sensors	21
Vocal feedback in flight	21
STICKS position	21
And more important.....	22
Conclusion	22

1. Preliminary

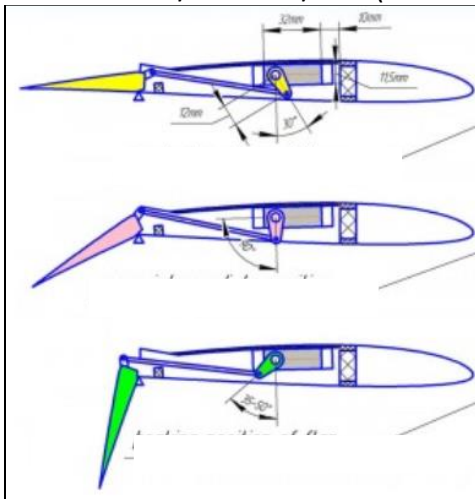
This is not essential (though !!) but it's good to have a well-mounted model 😊😊.

First step

- Actuators are of good quality. I mean without play and with a good neutral position (for example Futaba 3150, Graupner DS3288, Futaba HV3173, BlueBird BMS-56-V,...)
- The servos are rigid mouted in the model. No distortion. The frame use ribs all around the servo



- The cinematic is well design with a good horn ratio in order to have a servo travel close to $\pm 50^\circ$ to $\pm 60^\circ$ (which is $\pm 100\%$ to $\pm 125\%$)



Template

Use templates to adjust the positions of moving surfaces with a good repeatability and a good reproducibility.

- mini / MAXI
- Neutral position
- Flap angles,...

Here is a basic template I use for both ailerons and flap

Will be used later (See paragraph 2-CREATE A MODEL)



Here is another template used to adjust camber (flap deflections)

You can print it on transparent sheet.



2. CREATE A MODEL

Read me first !!

To avoid any risk on linkage or servo. Please read this paragraph first.

Please, do not connect your Rx now.

The goal of this chapter is to configure your model:

- What are the **FONCTIONS** (**STICKS**, **POTENTIOMETERS**, **SLIDERS** and/or **SWITCHES**)
- What are the control surfaces and servos
- Servos setup

Basic Properties

<p>Main Menu/Model/New Model</p> <p>Define</p> <ul style="list-style-type: none">• "name",• "model type",• "wing type"• "Tail Type"• "Engine count" (F5j)	<div><div>Tx Vol 16:19:28 100%</div><div>Basic Properties</div><div>Wing type: 2 Flaps 2 Ail </div><div></div><div>Tail type: Normal 1H1V </div><div></div><div> </div></div>
---	--

Functions Assignment

With this radio, I separate the **FONCTIONS** (for example **ROLL**, **PITCH**, **YAW**, **CAMBER**, **PITCH TRIM**, **BRAKE**, **THROTTLE**,...) et le name of the control surfaces (ailerons, elevators, rudder, flaps, airbrakes, engine, ESC,...).

It would not change anything on a very simple 2 axes plane but on our complex gliders, where any **STICK** acts several control surfaces, it is easier and clearer to separate **FONCTIONS** and control surfaces.

For example, **ROLL** stick certainly acts Ailerons but also Flaps (FullSpan mix) and Rudder (Combi Mix). So, Flaps and Rudder are as much important as Ailerons for **ROLLING**.

To avoid any confusion, between **EFFECT and Action, I use different names.**

To my knowledge, this is the only radio that can make that distinction. All other trademarks blithely confuse **FUNCTION** and how to achieve that function.

I know, it is a profound paradigm shift to setup our radios but this distinction has the advantage of being hyper clear and avoid confusion!!

The servos are temporary assigned to control sticks or potentiometers. We need it to setup the servos. The servo assignments are removed in Chapter 3.

We creat new **FONCTIONS** according to your sticks

- **ROLL**
- **PITCH**
- **YAW**
- **CAMBER**
- **BRAKE**
- **PITCH TRIM**

Don't assign any control yet. Do it on Chapter 3.

Tx	Vol	16:27:59	100%
Functions Assignment			
Function	Control	Trim	Trim-Max
1 Ailerons	P1		
2 Elevator	P4		
3 Rudder	P3		
4 Esc	P5		
5 Flaps	P6		
6 ROLL			
7 PITCH			
8 YAW			
9 THROTTLE			
10 CAMBER			
<div> <div><<</div> <div>Auto</div> <div>Add</div> <div>Del.</div> <div>>></div> </div>			

If you use other **FONCTIONS** (Engine for a F5J), you can adapt and create a function called **THROTTLE**

Servo Assignment

Only keep here the servo that are in the model. Remove all the other lines automatically created.

For easy reading, I set the 2 Ailerons on the same line. So do I for Flaps or Elevators (V-Tail)

Tx	Vol	16:44:22	98%
Servo Assignment			
1 Aileron 1	2 Aileron 2		
3 Flap 1	4 Flap 2		
5 Elevator	6 Rudder		
7 ...	8 ...		
9 ...	10 ...		
11 ...	12 ...		
13 ...	14 ...		
<div> <div><<</div> <div>Auto</div> <div>>></div> </div>			

If you use other servo (Engine for a F5J), you can adapt and create a servo called Esc

Servo Setup

Please, do not switch on your Rx

This part is critical in setting the model. We must devote the necessary time! This function is generally misunderstood. It seems important to explain to avoid further program errors. Deflections used for flight do not matter (almost). What interests us is that the control surfaces are well balanced (Aileron1 and 2, Flap 1 and 2, Vtail 1 and 2, ...), symmetrical and no strength. Of course, we also fix the maximum deflection of the rudder.

Here are all the fields

Tx Default 17:39:45 98%

Servo Setup

Aileron 1 (1) 0%

Servo No.	Aileron 1 (1)
Subtrim	0%
Max positive	100%
Max negative	-100%
Max positive limit	125%
Max negative limit	-125%
Reverse	No
Delay positive/negative	0.0s 0.0s

Servo balancer

(1) Ok

SubTrim (servo center)

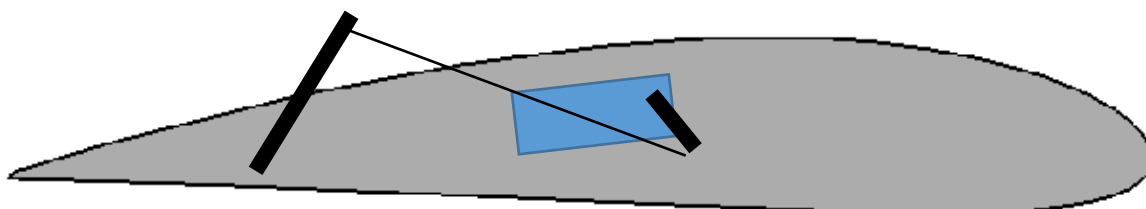
Do not switch on your Rx.

We must distinguish between the neutral of the control surface (flight position) and the servo center.

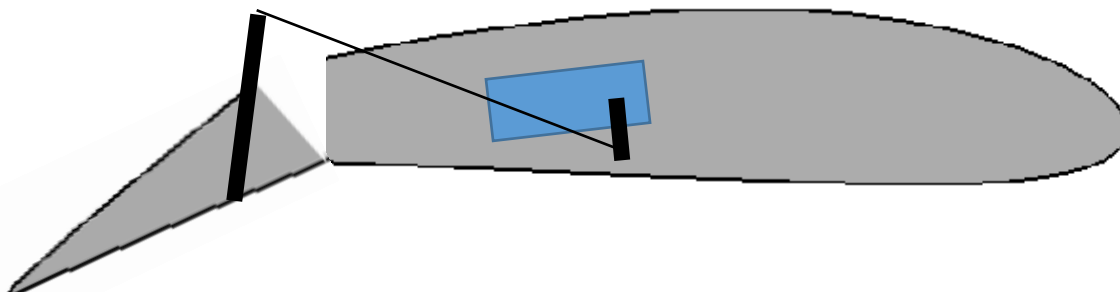
They are the same for rudder.

They are not the same, neither for flaps, ailerons, and hardly for elevator (for which you have several neutral position depending on flight modes) – see following visual example for flaps :

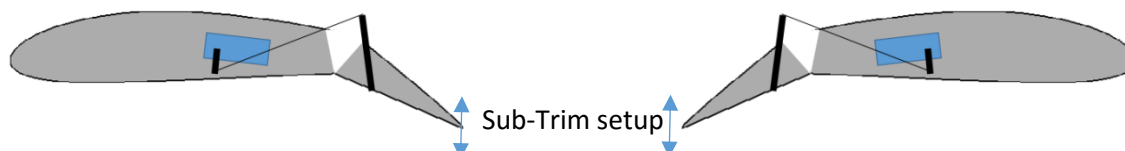
1. Neutral of the control surface :



2. Servo center:



SubTrim is used to define the servo center. Both Aileron1 and Aileron2 must have the same center position (see following picture).



DO NOT use that fonction to setup the flight neutral of the control surface (except for rudder). We are going to do that in the menu “Free Mixes” and “Flight Mode Trim”.

A SubTrim value less than 5% seems to be normal. For a higher rate, please adjust your horn or clevis.

Max Positive and Max Negative

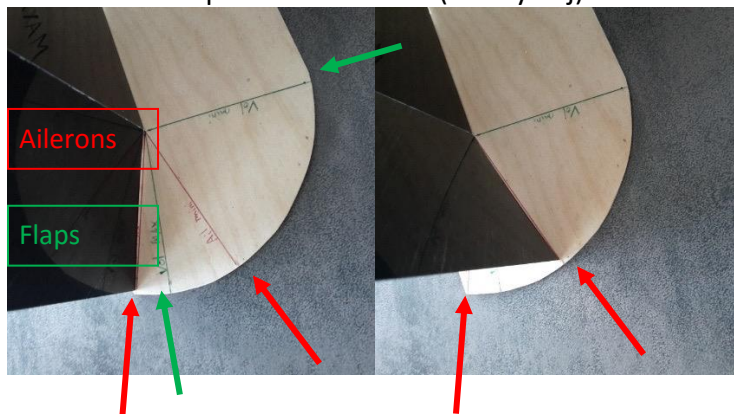
Please do not switch on your Rx

This parameter limits the travel of the servo in 2 cases:

- To avoid stress at mechanical stop – this is generally the case for the rudder and elevator.
- To adjust the limits of control surface travel – This is the case for ailerons and flaps. We can use the template seen in the 1st chapter « 1- PRELIMINARY » - The goal is to have the same travel for each aileron or each flap.

Before switching on the Rx, set a value between 25 and 50%. Then, switch on and adjust the value.

This is an exemple for an Aileron (on my F3j) :



Max positive Limit et Max negative limit

This value should be the same as Max Positive and Max Negative. Otherwise, you will have some of your sticks travel that have no action on the controls.

Same values →

Same values →

Tx
Default
17:39:45
98%

Servo Setup

Aileron 1 (1)	0%
Servo No.	Aileron 1 (1) ⬇
Subtrim	0%
Max positive	100%
Max negative	-100%
Max positive limit	125%
Max negative limit	-125%

Servo Balancer

Do not switch on you Rx

This function is a very precise SubTrim. It is used **only on one flap** servo or eventually on one Aileron servo. If you have to balance the 2 flaps, you should verify your servo mounting – and go back to Sub-Trims menu and Min/Max menu.

This function is used to adjust the disymetry for the intermediate positions af the servo.

- When the SubTrim setup is good, balancer is 0 at the neutral point, otherwise, you should adjust the SubTrim.
- When the Min/Max values are good, balancer is 0 at +/- 100%, otherwise, you should adjust the Max negative / Max positive.

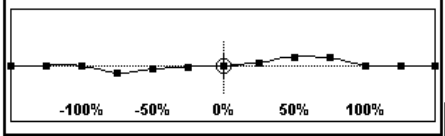
Here is and exemple for one Aileron

Tx
Default
22:34:41 98%

Servo Setup

Aileron 1 (1) 0%

Servo balancer



(1)
←
→

Ok

You can start setup !! 😊

I advise you to connect one servo to the receiver at a time - this avoids, when adjusting the right servo, the left one can be damaged reaching the full position..

If the servo is in full position, immediately unplug the power supply. Set the values of "Positive Max" and "Min Positive" from 25% to 50% before turning on the Rx.


Rx and Tx on, set the Max and Min values Positive to the limits of your travel template.

If the Max and Min values are <60% or <70%, it is better (not required) to approach the fork axis servo. Have a value between 80 and 120% seems normal.

If the value of subtrim > 10%, it is better (not required) to adjust the horn and clevis.

A value between -5 and + 5% seems normal.

Example here on a wing (red boundary on the template for ailerons, green limits for flaps)



Tx
Default
22:35:33 98%

Servo Setup

Aileron 1 (1) 1%

Servo No.	Aileron 1 (1)
Subtrim	<div style="display: flex; align-items: center;"><div style="flex: 1; border: 1px solid black; height: 15px;"></div> 2%</div>
Max positive	<div style="display: flex; align-items: center;"><div style="flex: 1; border: 1px solid black; height: 15px; background: linear-gradient(to right, black 111%, white 111%);"></div> 111%</div>
Max negative	<div style="display: flex; align-items: center;"><div style="flex: 1; border: 1px solid black; height: 15px; background: linear-gradient(to right, white 116%, black 116%);"></div> -116%</div>
Max positive limit	<div style="display: flex; align-items: center;"><div style="flex: 1; border: 1px solid black; height: 15px; background: linear-gradient(to right, black 111%, white 111%);"></div> 111%</div>
Max negative limit	<div style="display: flex; align-items: center;"><div style="flex: 1; border: 1px solid black; height: 15px; background: linear-gradient(to right, white 116%, black 116%);"></div> -116%</div>

(1)
←
→

Ok




You must repeat this process for each servo.




























Functions Assignment

Now that all servos are set, we will remove the direct allocation of servos sticks to affect **FUNCTIONS** sticks.

In the column "Command." We remove the direct assignment of the servos to the **STICKS** (confusing during future programming)

We affect the **FUNCTIONS** sliders and sticks.

Tx  Default  22:36:45  97%

Functions Assignment				
	Function	Control	Trim	Trim-Max
1	Ailerons		... 	... 
2	Elevator		... 	... 
3	Rudder		... 	... 
4	Flaps		... 	... 
5	ROLL		P1 	... 
6	PITCH		P4 	... 
7	YAW		P3 	... 
8	CAMBER		P2 	... 
9	PITCH TRIM		P6 	... 

Auto Add Del. Ok

Conclusion

This is the end of the first step: setting controls and servos !

- We defined the **FUNCTION** sticks and sliders
- We defined names of moving surfaces servos.
- All servos are set (mini race, maxi, neutral sense, symmetry ...)

Now we start to set the Fine Tuning to link **FUNCTIONS** to servos and start animating your model because at this time of the Tutorial, nothing happens when you touch the sticks. If this first part is well done, it's only the "cake" for the future. Let's go to dessert 😊

3. FINE TUNING

Here we leave the "Model" menu of the radio and ***we are never return (Oufff!)***.

If you need to return to it, is that the Jeti programming logic is not yet quite clear to you ... it will come, do not worry !!

Now enter in the next menu "Fine Tunings" and proceed in the order of the radio, the different chapters.

Flight Modes/Phases

The creation of the flight phases is important since it defines their priority. In this example, "Landing" has priority over all other phases. Thus, regardless of the position of "Sa", you will switch to phase "landing" when you operate "Sb" (here on a DS16, Sb has 2 positions and Sa has 3).

Label	Delay	Switch	🎵
1 landing	0.0s	Sb	🎵
2 thermal	0.0s	Sa	🎵
3 cruise	0.0s	Sa	🎵
4 winch	0.0s	winch	🎵

Buttons: ⬇️ ⬆️ Add ✖️ Ok

To create sounds you can download the "Ivona Reader" software.

To go faster, we will adjust the glider in Global mode ("G") for a flight phase (for example "Thermal"). Once the glider is set in this phase, we will enter Separated mode ("S") and will set the other phases.

Flight phases trim

This is a menu that I do not always use, due to my preference to the "Free mixers" menu where you can adjust the Phase trim by shifting the curve up or down.

I sometimes used to make it clearer and more precise some mixers. For example "**CAMBER** → Ailerons" and "**CAMBER** → Flaps".

See "Free mixers" below for setting.

To be consistent with the power of "Free mixers" it'll be nice to have the opportunity to incorporate an offset value (Phase trim) directly into the «Free-mixer» menu. I hope this little touch of comfort will be included in a future update.

Function Curves – Ailerons Differential and Butterfly - V-Tail

These are menus which I used extensively on other radio brand and I totally abandoned with JETI - except for the management of aerobatic F3A.

I instead use the power and flexibility of the menu "Free mixers".

Dual Rate / Exponential and Differential

I only use in this menu the exponential function. For deflections, I use the power and flexibility of the menu "Free mixers".

To be consistent with "Function Curve" I would have liked the Expo and DR feature available in Function curves. I hope, again, that little touch of comfort in a future update.

Free Mixers

HA Ha ha !! We arrive at the heart of the configuration of your model. Here it's a new world of programming! This is where we will animate your glider!

Here, you will link your **STICKS** to moving surfaces to give life to your model. Here all the mixers that we are creating for a conventional tail (or for a V-tail). The order of creation of mixers it's important, they follow a logical time saving when making adjustments. We will set first ailerons , flaps in 2nd and 3rd and finally the elevator and rudder.

















- **CAMBER** → Ailerons
- **PITCH** → Ailerons
- **PITCH TRIM** → Ailerons
- **ROLL** → Ailerons
- **YAW** → Ailerons

- **CAMBER** → Flaps
- **PITCH** → Flaps
- **PITCH TRIM** → Flaps
- **ROLL** → Flaps
- **YAW** → Flaps

- **CAMBER** → Elevator (or V-Tail)
- **PITCH** → Elevator (or V-Tail)
- **PITCH TRIM** → Elevator (or V-Tail)
- **YAW** → Ruder (or V-Tail)
- **ROLL** → Ruder (or V-Tail)

Here is an illustration of what happens in my very complex model once all mixers are parameterized.


You have 20 free mixers, you can go for them honestly !! Lot of them will be unused ;-)

Tx  winch			22:48:34	96%
Free Mixes				
From	To	Value		
CAMBER	Ailerons	100%		
PITCH	Ailerons	25%		
PITCH TRIM	Ailerons	5%		
ROLL	Ailerons	100%		
YAW	Ailerons	10%		
CAMBER	Flaps	100%		
PITCH	Flaps	25%		
PITCH TRIM	Flaps	5%		
ROLL	Flaps	40%		
YAW	Flaps	10%		
CAMBER	Elevator	10%		
PITCH	Elevator	100%		
PITCH TRIM	Elevator	10%		
ROLL	Rudder	100%		
YAW	Rudder	100%		
<div>Copy</div> <div>Add</div> <div>Del.</div> <div>Edit</div> <div>Ok</div>				

The methode :

1. To start :

We creat a mixer with a default value of 100%.

<p>Here for example from Camber stick to Flaps.</p> <p>We will adjust later the vakuue of 100%.</p>		<div> Tx  winch 22:49:30 96% </div> <div> <h3>Free Mixes</h3> <div> From CAMBER To Flaps </div> <div> Master Value 100% </div> <div> Advanced >> </div> <div> << </div> </div>
---	--	--

You click to the next, edit the mixer, go to curves, select "3 points" and in the curve, set everything to zero (Mixing is therefore not working).

You place your CAMBER stick on 1st point, and you adjust the point value to obtain the desired position of the flaps. You repeat the operation for each point of the curve. This is a rough adjustment, we'll come back later to fine adjust.

2. To set : 1st case, the curve is very shifted.

Here the obtained value on my model (for example) after the first step.

We see here that the curve is very shifted. This is not very comfortable because we can find values near 125 %.

We shift down the curve.

We utilize the Phase trim to compensate and get the moving surface in the wished position.

If the chapter "MODEL CREATION" it's well done, the values are the same. If not, it's better to come back to the previous chapter.

Tx winch 22:50:03 96%

Mixer Curve

CAMBER
>>>
Flaps

Point -
In
...
Out
...

Curve type
3-point

← → ↓ ↑ Ok

Tx winch 22:50:34 96%

Mixer Curve

CAMBER
>>>
Flaps

Point -
In
...
Out
...

Curve type
3-point

← → ↓ ↑ Ok

Tx winch 22:51:00 96%

Flight Mode Trim

	S1	S2	S3	S4	
Ailerons	-36%	-36%			
Elevator	0%				
Rudder	0%				
Flaps	0%	0%			
ROLL	0%				

Sym. Clr Ok

CAUTION: Once the value of the "Phase trim" is set, you must never touched it again. To adjust your mixer on the field, it is in the curves you have to go where you can also edit point by point.

3. To set : 2nd case, the curve is very flat :

Here the obtained value on my model (for example) after the first step.

- at point N°1 : -3%
- at point N°2 : 4%
- at point N°3 : 10%

We define this value as « Max Value of the curve »

Tx winch 22:51:47 96%

Mixer Curve

CAMBER
>>>
Flaps

Point -
In
...
Out
...

Curve type
3-point

← → ↓ ↑ Ok

Now if you need to make a hyper fine tuning of your mix control, adjust the values of the curves. Here, with this trick, we just improve the resolution of the mixer by a factor of 10 - we could now settle the 3.4% that were not possible in the previous step! THAT'S GOOD !!

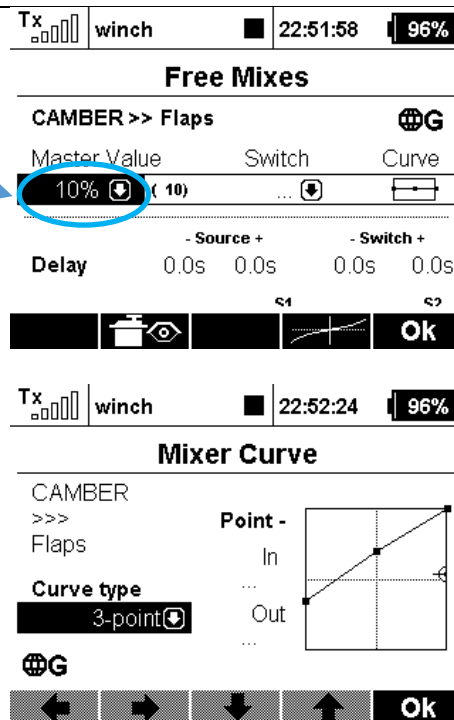
Replace the initial value of Master Value (100%) by **Max Value of the curve**

Then, increase the values in the curve with this factor :
(Valeur Maître initiale)/(Valeur Maître finale).

For this exemple, it is $100/10 = 10$

The new values of the curve are ::

- Point N°1 : $-3 \times 10 = -30$
- Point N°2 : $4 \times 10 = 40$
- Point N°3 : $10 \times 10 = 100$

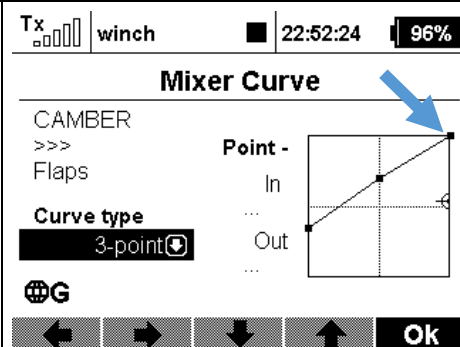


CAUTION: Once the "Value Master" set, it will never be touched. To adjust your mix on the field is in the curves as it happens. You can edit point by point (while the "Value Master" affect all)

Now you are ready to make all the mixes.

How to set phases trim with mixers

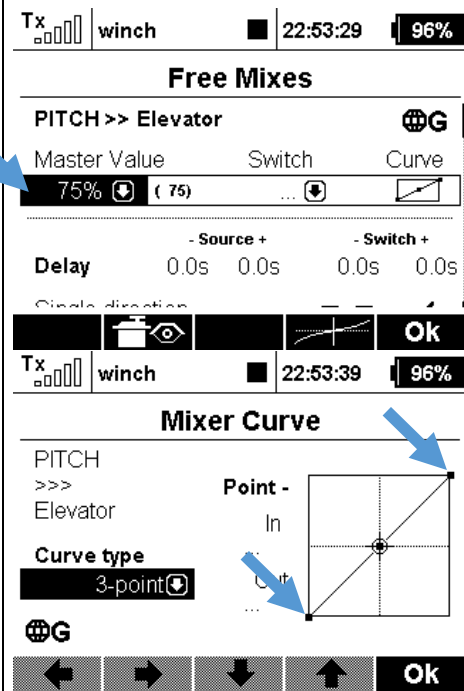
You position your **CAMBER** stick in the flight position "smooth" and you adjust the value of the curve for the right position of the flaps.



How to set Dual Rate with mixers

If your setting is symmetric, you modify the Master Value.

If you need to regulate differently for the right and left, you adjust the value to the ends of the curve.



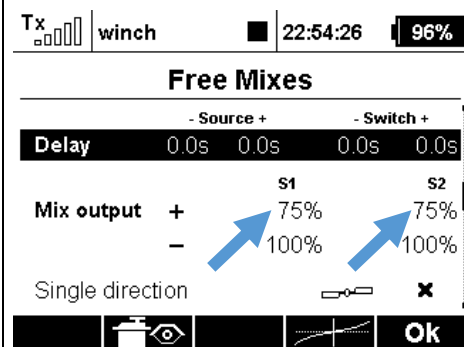
How to set Ailerons Differential, flaps or V-Tail with mixers.

1. If you know the differential value

Enter into mixer edit and change the field "Out Mix", you can then change the values to limit travel down your ailerons (or V-Tail)

S1 means left aileron (of left V-tail)
S2 means right aileron (or right V-tail)

Be careful ! this function is present in Tx software from upgrade version 3.02



What's cool is that you can do the same for ROLL → flaps mixer, while it was not possible in the menu "Settings Fins / Differential Aileron"

2. If you want to set Differential in flight

This problem was posed to me by Robin (a friend of mine), a great lover of the opportunities offered by its previous radio. He wanted to set the differential in flight using a potentiometer. The trick will be to create a new mix ROLL → Aileron that is opposed to the original mixer and whose value is adjustable via P8.

Create a 1st mixer as always.

And a 2nd one opposed to 1st mixer (so the value is - 100%)

1st mixer detail: do as always, without put differential (exit at +/- 100%)

2nd mixer. you indicate a proportional switch (here P8)

Indicate limit only for "down travel"

Tx winch 22:55:36 94%

Free Mixes

From	To	Value
ROLL	Ailerons	100%
ROLL	Ailerons	-100%

Copy Add Del. Edit Ok

Tx winch 22:55:56 94%

Free Mixes

ROLL >> Ailerons

Master Value 100% (-100) Switch ... Curve

Delay	- Source +		- Switch +	
	0.0s	0.0s	0.0s	0.0s
		S1		S2
Mix output +		100%		100%
-		100%		100%

Single direction **x**

Master Link **x**

Slave Link **x**

Ok

Tx winch 22:56:45 94%

Select Input Control

P8

22%

Centr Prop. Rev. Clr Ok

Tx winch 22:57:01 94%

Free Mixes

ROLL >> Ailerons

Master Value -100% (-22) Switch P8 Curve

Delay	- Source +		- Switch +	
	0.0s	0.0s	0.0s	0.0s
		S1		S2
Mix output +		100%		100%
-		0%		0%

Single direction **x**

Master Link **x**

Slave Link **x**

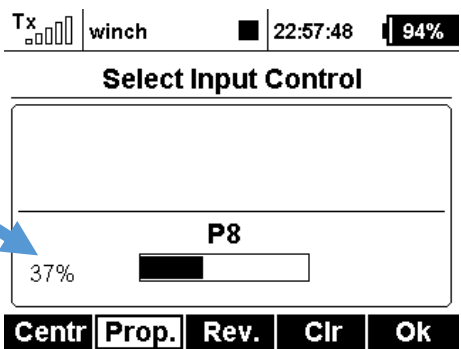
Ok

Once the value is set in flight, we will remove this 2nd mixer and we will copy the value of P8 in the first mixer

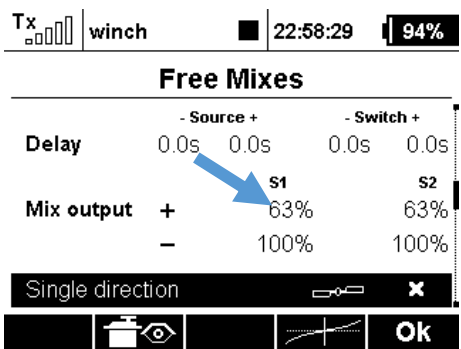
We find the potentiometer P8 (here 37%)

We reset differential in the 1st mixer:
new value = old value - potentiometer value

Here : $63 = 100 - 37$



The screenshot shows the 'Select Input Control' menu with a potentiometer P8 set to 37%. Below the menu are buttons: Centr, Prop., Rev., Clr, and Ok.

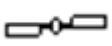


The screenshot shows the 'Free Mixes' menu. It has columns for Delay, Source, and Switch. The 'Mix output' for S1 and S2 is shown as 63% and 100% respectively. A blue arrow points to the 'Mix output' for S1.

This trick can of course be used to set the flaps differential in flight (with potentiometer P7 for example) or the differential of a V-Tail. More generally, this method can also be used to adjust any movement, any mixer.


Setting a V-Tail, Flaperon.....

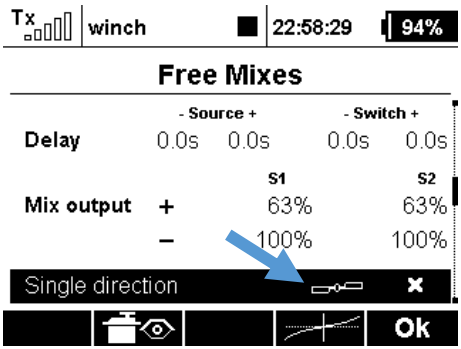
The control surfaces of a V-tail have two distinct functions (either moving the axis of **PITCH** or **YAW**). As the flaperons of a flying wing, V-tail acts either on the axis of **PITCH** or on the axis of **ROLL**.

We use: Single direction function 

- a flap going up, the other going down :

V-Tail acts on Yaw axis (flaperon on Roll axis)

 : the 2 flaps going up and down together: V-Tail acts on Pitch (flaperon on Pitch axis) |



The screenshot shows the 'Free Mixes' menu. It has columns for Delay, Source, and Switch. The 'Mix output' for S1 and S2 is shown as 63% and 100% respectively. A blue arrow points to the 'Single direction' function.

Extension to all flight phases

We start again all the steps to set all the flight phases selecting "S" instead of "G" in the following menus:

Dual Rate and Expo
Free mixers

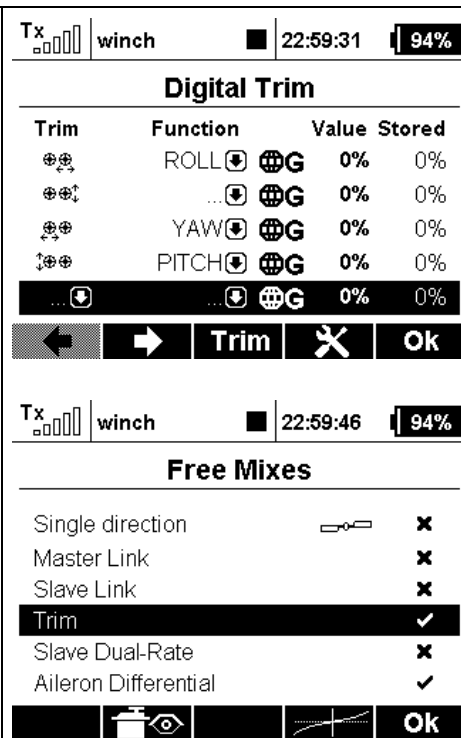
How to trim

Thank to Claude for finding the trick.

We need to "tell" to the Tx what will be the trim for each function.

In Function, we will define the trim **FUNCTION** instead of commands

Then, in the mixers, "Trim" is checked
Now trim acts on the mixing



With this trick, the Auto Trim function works perfectly.

What to do if trim is inverted

With this method of programming, it may happen that the direction of trim is reversed. It happened to Richard that turned the problem to me. For example, your model is a little nose-down and when you think to trim elevator up , the opposite happens. This is an annoying affair !!

Do not panic, here is the solution:

reverse the servo (MODEL menu / SET SERVO)

put a value opposite to the mix

(If you have 100% Master value, set -100%)

And everything should be back to normal.

Conclusion

ALL now move properly when you operate your sticks. That's wonderful !!!

Your model is ready to take the air. You can charge your batteries and go to ground if you feel the maiden moment is arrived.

Have a look to the next chapter, it will give you ideas ;-)

4. Advanced Properties and Timers/Sensors

We take in consideration 2 properties regarding F3J

We consider "Sound on event" and "Sound of proportional control"

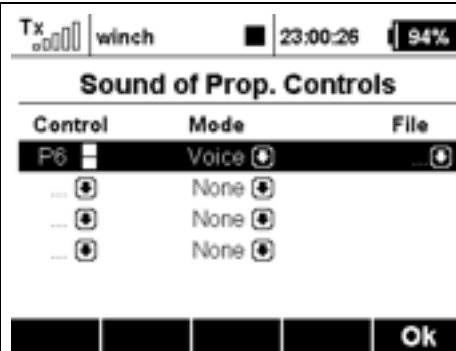
Vocal feedback in flight

STICKS position

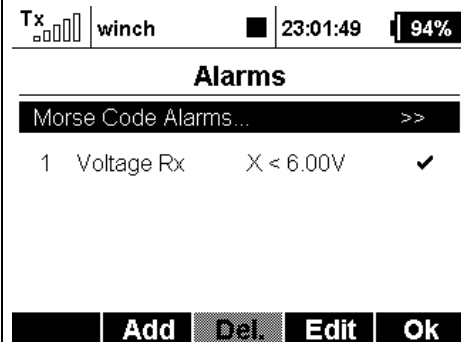
To know in what position is your camber stick or your PITCH TRIM slider, we can set the Tx Jeti will tell you all !

3. Rx voltage

Enter "Advanced Properties /Sound of proportional control" and select Voice for the stick you want



Enter in "Timers/sensors" and select the limit value that give you the possibility to come back and land safely (here for a 6,6 Volts LiFeP04)



4. Tx voltage and Low signal alarms

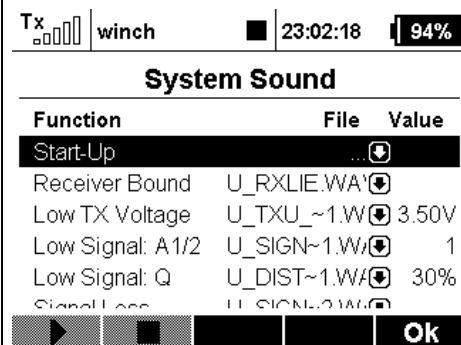
In "System / System Sounds"

Be sure that

-Tx limit voltage is selected to 3.5V

-low alarm signal "A" set to 1, which still leaves plenty of margin before the signal loss

The alarm signal low "Q" set to 30%. It will activate when the antennas will be around 2 or 3 in F3J, this happens when the model is about 1km away.



And more important

We can also add, in the landing phase, that radio plays the "Ride of the Valkyries" by Richard Wagner.

No, just kidding !! (Although it is possible 😊)

Conclusion

Check everything before flying (meaning deflections, meaning trims, each phase ...)

Set out your glider flight in your hand.

Remember to save your FailSafe BRAKES → Elevator as soon as the mixer is set !!!

Enjoy and drive safe!

"It is better to be regretted to be on the ground than regret not being there"