FlySky FS-CT6 (A/B)

User Manual
for Airplane

Introduction

This manual will not cover helicopter setup as that is covered in the manual that is included with some versions of the T6, and is available on the manufacturers website. The information covered in this manual is for both versions of the T6, the T6A and T6B.

The T6 is manufactured by FlySky and is rebranded for other retailers. It can be found under the following brands HobbyKing, Exceed RC, Turborix, Radiolink, etc...

When you unpack your radio depending which brand you have you will find, 1-Transmitter, 1-Receiver, 1-receiver bind plug, 1-USB cable, and 1-mini CD containing T6config, a manual, and prolific drivers. The prolific drivers are useless unless you have Win98 or some other outdated OS. If you have WinXP, Vista, or Win7 you will need to download drivers here. The first driver listed on the linked page under “T6 drivers” works with all three operating systems listed in the line above.

Once you have everything unpacked and fresh AA batteries in your Transmitter (Tx) insert the CD into your drive and install T6onfig to your computer. **Do not install the prolific drivers**. Download the drivers from the link above and store them on your computer. Plug the USB cable included with your radio into a USB port on your computer. Your computer will start looking for drivers. It will eventually ask you for the location of the driver. Enter the location where you stored the downloaded drivers on your computer. After Windows has finished installing the driver it will be necessary to assign a COM port to the USB cable. To do this you simply go into “Device Manager” on your computer. Look under “Ports (COM & LTP)” the USB cable should appear as “Silicon Labsxxxxxxxx”. To assign a specific COM port to the cable right click on the USB cable and select “properties”. In the properties window click the “Port Settings tab. Then click the advanced button. In the next window you will see a “COM Port Number” button. Click that and select a port between 1 and 6, and click “OK”. You will now get a warning about other devices not working properly if you choose a port already assigned to another device. Ignore this warning and continue. After you have completed this step you may now plug the USB cable into your Tx.

Open **T6config**, power on your Tx, and select the COM port you assigned to the USB cable (*see illustration 1*). Now you should see the channel bars moving as you manipulate the Tx sticks. If the channel bars do not respond to stick movement then double check the steps above. If everything is correct, try the above procedure with a different driver after you uninstall the previous driver. When the channel bars are responding to the stick movements then proceed to the next section.

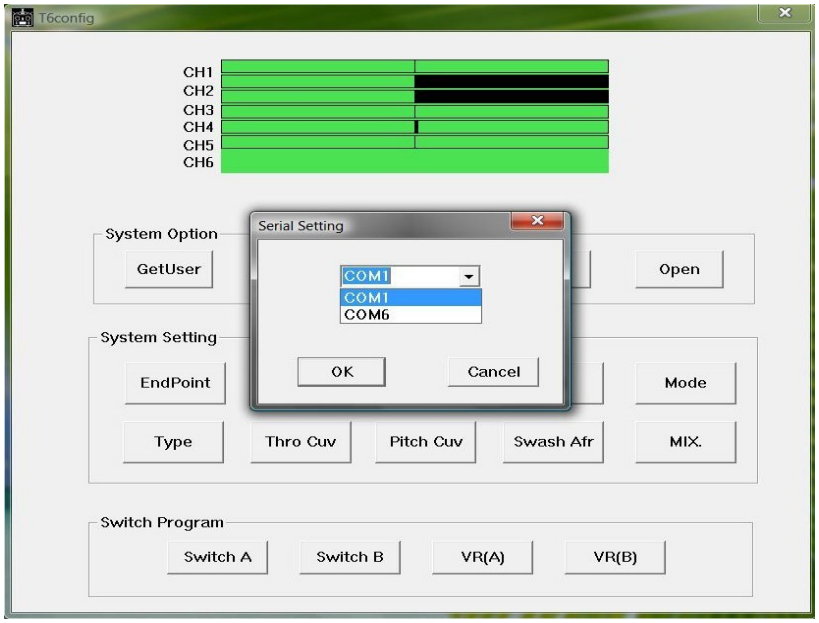

Illustration 1: Selecting the COM port in T6config

Some users suggest at this point you save the "**Default Settings**" programmed into the Tx's memory. This step is not necessary unless you want to use the T6 for helicopters. The default setting are also available here. The default setting are for a CCPM helicopter.

To save the default settings click the "**Get User**" button. This action downloads the information stored in the Tx's memory to T6config. Then click "**Save**" and select a location where you want to save the data (*see illustration 2*). Create a new folder in the location you selected and name it "T6 Settings" and name the file "Default", or "Default Settings". In the "Save" window the "Save" button is mislabeled. It reads "Open". Click it anyway to save your settings.

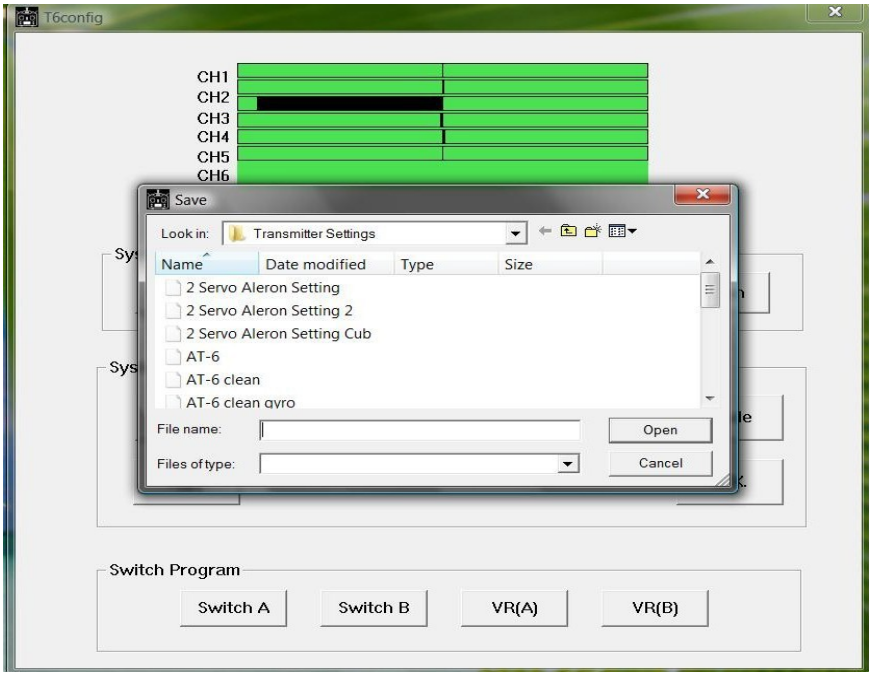

Illustration 2: Saving your settings in T6config

Once you have saved your default setting you can start programming the Tx for your model. The first step will be to select the Tx mode you will be using. You have a choice of Mode 1, Mode 2, Mode 3, and Mode 4 (*see illustration 3*). You will make this selection in regards to the geographical region where you reside. In the USA most users select “Mode 2”. It is important to select the mode most commonly used in your area.

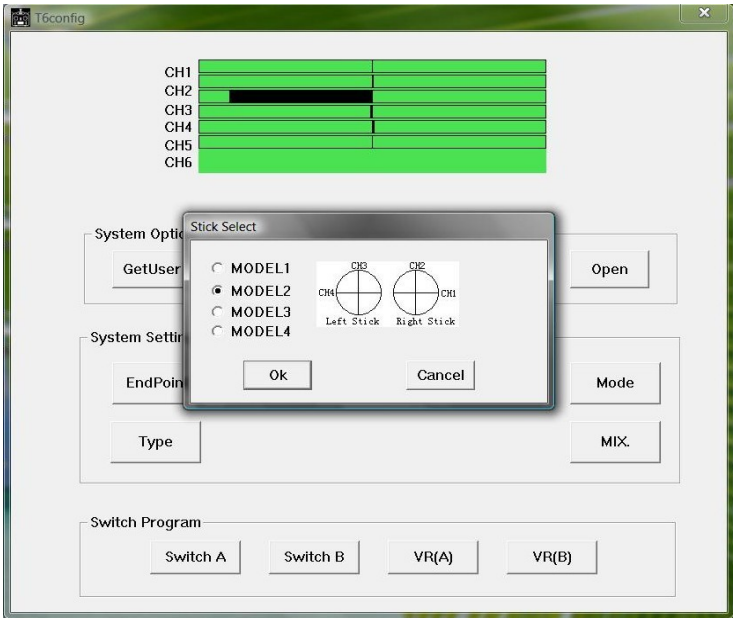

Illustration 3: T6 Mode Selection window

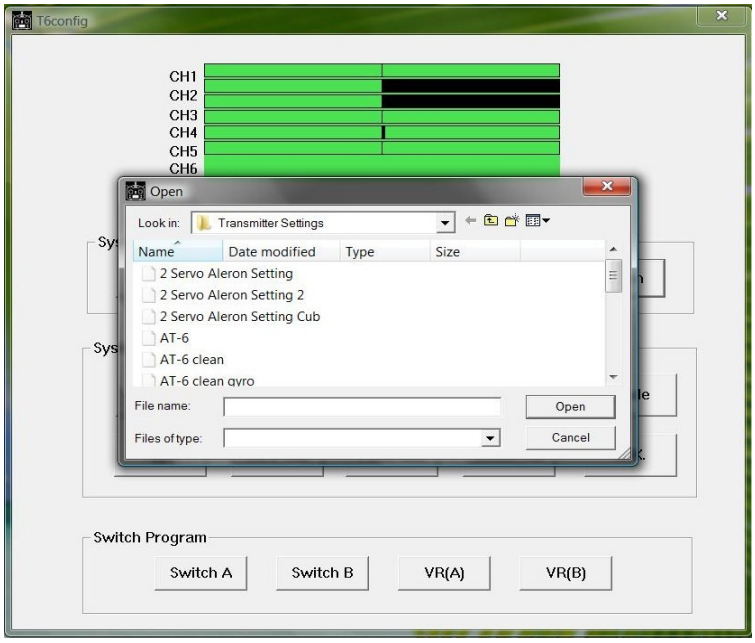

Illustration 4: Open window

To load a saved model to the T6 click "**Open**". In the Open window select the desired saved model file and click "Open"(*see illustration 4*). If the Tx is already connected to T6config the file is automatically uploaded to the Tx.

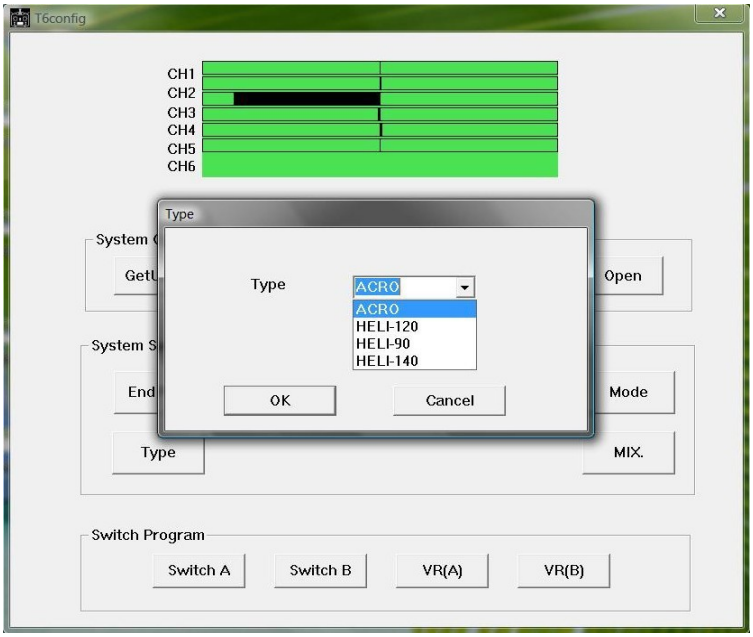

Illustration 5: Aircraft Type window

To select a model type click "**Type**". In the type window (*see illustration 5*) there are four choices:

1. ACRO (airplane)
2. HELI-120
3. HELI-90
4. HELI-140

In this manual only ACRO (airplane) will be used. Select "ACRO" to begin programming your model.

Controls

The T6 channel arrangement is:

CH 1 ailerons
CH 2 elevator
CH 3 throttle
CH 4 rudder
CH 5 aux
CH 6 aux

The T6 has 2 switches on either side of the carry handle. They are designated SW. A and SW. B. They can be assigned to different functions. These functions are:

NULL: Deactivated
DR: Dual Rates
ThroCut: Throttle Cut

They can also be assigned to any of the three mixes. The switches can also be used to switch a mix **on** or, **off**. If you are using the T6 on an electric powered model, I would suggest you assign one of the switches as "Throttle Cut" for your safety.

The T6 has 2 variable knobs on the left and right sides of the face of the Tx. These are designated VR(A), and VR(B). They can be assigned to CH 5, or CH 6 through any of the three mixes.

The Tx has 2 gimbals with trim tabs for fine tuning you model in flight. There is a "**Bind/Range Test**" button in the lower left corner. This is used to bind the receiver (Rx) to your Tx. To preform a range test. Turn on the Tx and then power on the model. Step away from the model approximately 30 yds. Press and hold the "Bind/Range Test" button while an assistant observes operation of the model. For safety concerns do not activate the throttle while range testing.

Other than the "On/Off" switch the Tx has a tricolor LED. The LED shows green for fully charged batteries, yellow for slightly discharged batteries, and red for discharged batteries. Fly your model with caution when the LED shows yellow, and never fly you model when the LED shows red.

Programming

Mixes

To program a mix click the "**MIX**" button. A small window will open (*see illustration 6*). The parameters for mixing are:

1. Mix Number: MIX 1, MIX 2, and MIX 3
2. Source: CH 1- CH 6, VR A, and VR B
3. Des (destination): CH 1- CH 6
4. Up Rate: -100% to +100%
5. Down Rate: -100% to +100%
6. Switch: SW A, SW B, ON, and OFF

In the switch parameter do not confuse **ON (mix active)** and **OFF (mix inactive)** with the functions of SW A or SW B. To assign a function for SW A or SW B select them in "**Switch Program**"

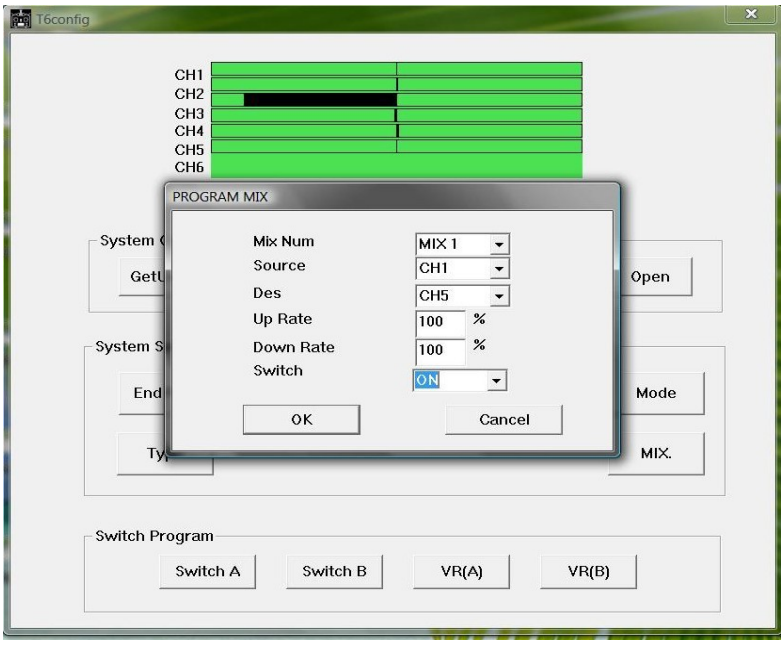

Illustration 6: Program Mix window

End Point

To program end points click the "**End Point**" button. A small window will open that will allow adjustment of the channel end points (*see illustration 7*). These can be adjusted from
0-120%. This can be useful when you need extra travel of the servos.

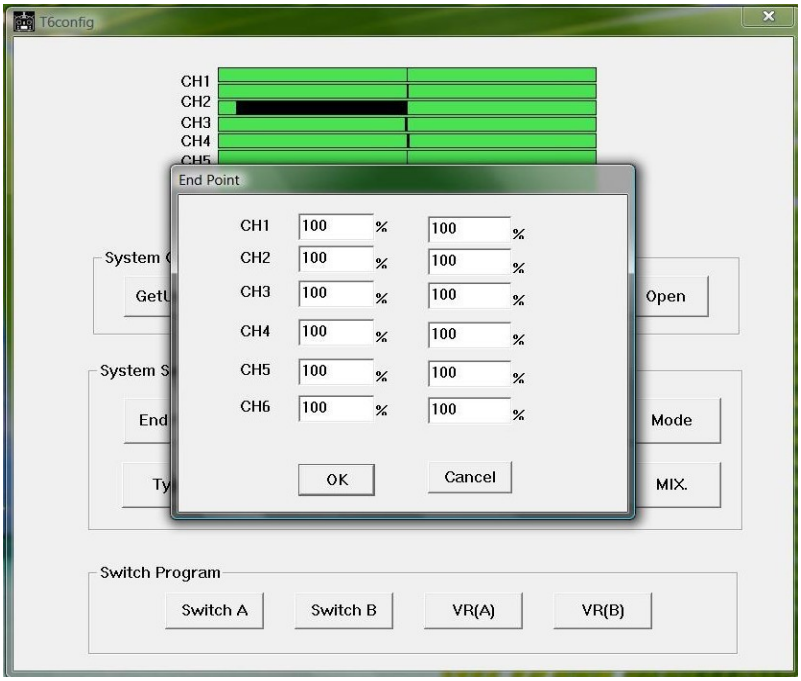

Illustration 7: End Point window

Reverse

To Program servo reversing click the "**Reverse**" button. In the reverse window reversing for each channel is performed by placing a check on the channel that needs to be reversed (*see illustration 8*).

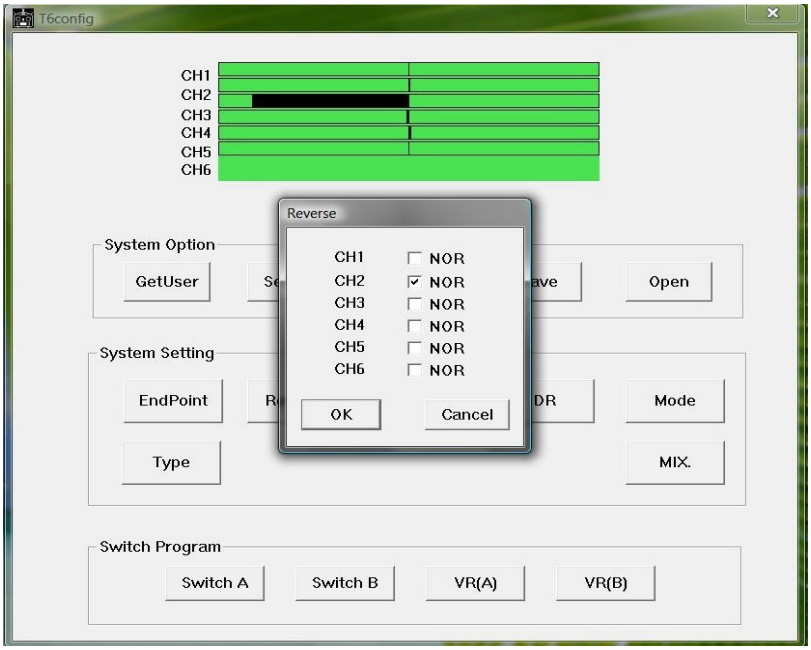

Illustration 8: Reverse window

Subtrim

To adjust the subtrim of the Tx, click the "**Subtrim**" button. In the subtrim window adjustments can be made for variations in your models trim while leaving the trim tabs centered on the Tx (*see illustration 9*). This is easily performed after you have your model trimmed for flight. You connect the Tx to T6config and copy the amount of trim added by the trim tabs and enter it into the subtrim for that channel. Then recenter the trim tabs. The subtrim can be set from 0 to 120%

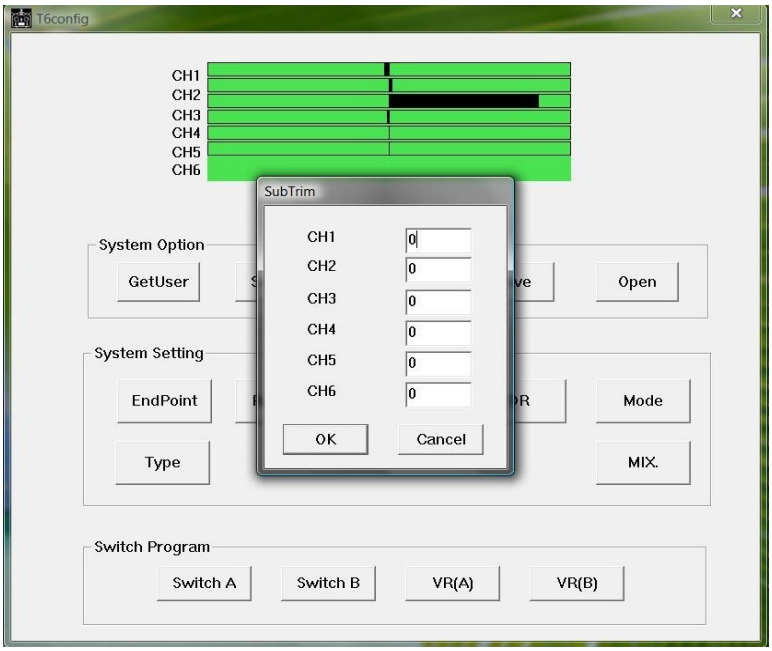

Illustration 9: Subtrim window

DR (Dual Rates)

Dual rates can be programmed by clicking the "**DR**" button. In the DR window only CH1, CH 2, and CH 4, can be programmed with dual rates (*see illustration 10*). There are parameters for **DR On** and **DR Off**. The parameters can be set from 0% - 100%. In order for dual rate to be active you must assign either SW. A or SW. B for **DR (dual rates)** in the "**Switch Program**" menu for SW. A or SW. B. Dual rates are useful for limiting the travel of the control surfaces on your model. A good starting point is 50%.

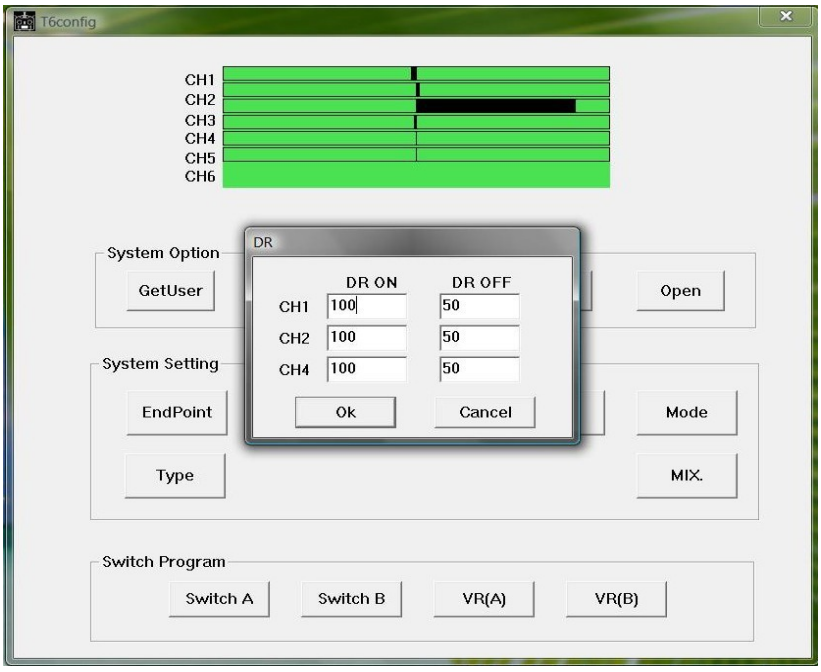

Illustration 10: Dual Rates window

Help

The "**Help**" button is useless.

T6 Programs

2 Servo Ailerons

MIX 1 (or any unused mix)
Source: CH 1
Des: CH 5 (or CH 6)
Up Rate: 100%
Down Rate: 100%
Switch: On

Flaps

MIX 1 (or any unused mix)
Source: VR A (or VR B)
Des: CH 5 (or CH 6)
Up Rate: 0% **Down Rate:** 100% **Switch: SW A** (or SW B)

Use a servo “Y” cable to connect servos. Use VR A or VR B to adjust degree of flaps, and switch flaps on or off with SW A or SW B. If those switches are not in use by another function. Otherwise operate flaps with either VR A or VR B and set “Switch” to on.

Delta/Elevons

MIX 1 (or any unused mix)
Source: CH 1
Des: CH 2
Up Rate: 100%
Down Rate: 100%
Switch: On

MIX 2 (or any unused mix)
Source: CH 2
Des: CH 1
Up Rate: -100%
Down Rate: -100%
Switch: On

V-tail

MIX 1 (or any unused mix)
Source: CH 2
Des: CH 4
Up Rate: 100%
Down Rate: 100%
Switch: On

MIX 2 (or any unused mix)
Source: CH 4
Des: CH 2
Up Rate: -100%
Down Rate: -100%
Switch: ON

This would be the proper mix for a V-tail model with ailerons. To mix a V-tail model without ailerons you can also use the Delta/Elevon mix above.

Flapperons/Spoilerons

MIX 1
Source: CH 1
Des: CH 5 (or CH 6)
Up Rate: 100%
Down Rate: 100%
Switch: On

MIX 2
Source: VR A (or VR B)
Des: CH 1
Up Rate: 75%
Down Rate: 75%
Switch: SW A (or SW B)

MIX 3
Source: VR A (or VR B)
Des: CH 5 (or CH 6)
Up Rate: -75% **Down Rate:** -75% **Switch:** SW A (or SW B)

Use VR A or VR B to select either flaperons or spoilerons, and the degree of travel. The percentages of mix 2and 3 can be adjusted to suite your models flight characteristics. The Up rate and Down rate percentages can be adjusted as necessary to your application. However higher percentages result in less aileron travel.

Gyro Gain

MIX 1 (or any unused mix)
Source: VR A (or VR B)
Des: CH 5 (or CH 6)
Up Rate: 100%
Down Rate: 100%
Switch: On

You will need to center VR A (or VR B) in T6config and mark it on the TX case for easy reference.

Bind Procedure

The procedure for binding the Rx to the Tx is as follows:

1. Insert the **bind plug** into the "**Batt**" port of the Rx.
2. Apply 4.5-6V power to Rx (LED will blink)
3. Press and hold the "**Bind/Range Test**" button while turning on the Tx. Then release the "Bind" button
4. The LED on the Rx should stop blinking and stay on solid
5. Power off the Rx and remove the bind plug
6. Turn off the Tx

The Tx has to be turned off to exit "**Bind Mode**". Your Tx and Rx should now be bound. The binding sequence is the only time that the Rx is powered on before Tx. After binding, the Tx must be powered on first and then power on the Rx. The T6A will sometimes require rebinding of the Rx. If you notice any erratic servo movement when using the T6A rebind the Rx before attempting flight.

The T6A does not have a FCC certification label permanently attached to the case which will cause you a problem at some flying fields. The T6A is FCC certified, but without the label it is illegal to use at AMA sponsored events. The T6B is FCC certified and has the proper label which would make it legal for use at AMA sponsored events.

The T6 is a power hog. Some users prefer to use rechargeable NiCd or NiMh batteries. There is a battery charger available for the T6, but it is difficult to find, and is not a peak charger, and will overcharge and damage your batteries if left unattended. Some users purchase a 5.5mm x 2.5mm coaxial plug and adapt it to use a battery charger for the type rechargeable battery they are using. The battery charger port is **center positive**, and a peak charger will work without any modification to the charge circuit on the mainboard of the Tx.

There is a modification here to help with the tricolor LED showing yellow after a short period of time. It is an easy modification not requiring a great deal of skill to accomplish.

There are also a few other alternatives to T6config on the internet. One is Digital Radio it costs $2.00 and may be a little easier for some of you to use. It can be found here.

The T6 has a programming port on the rear of the case (*see illustration 11*). The port is marked "**Trainer**" it will not function in that capacity without modification to the port. The manufacturer does not offer a cable for connecting two T6's together.

The USB cable that is included with some brands of T6 radios will not function as a simulator cable without using special programs. FlySky does manufacture and sell a simulator cable for the T6, part # (**FS-SM100**). It works well with FMS without any special drivers or programs.

Illustration 11: T6 Trainer/programming port

T6A and T6B receivers are not interchangeable. “A” model receivers (R6A) will not bind to “B” model transmitters (T6B), and “B” model receivers (R6B) will not bind to “A” model Transmitters (T6A). HobbyKing lists their brand as V1 (“A” model), and V2 (“B” model). “A” model systems are non frequency hopping, and “B” model systems feature advanced frequency hopping technology. The R6A receiver uses a smaller satellite receiver, but the R6B does not.

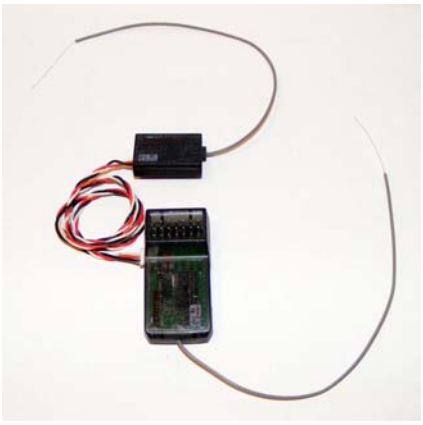

Illustration 12: R6A "A" model receiver, HK V1 w/satellite Rx

Illustration 13: R6B "B" model receiver, HK V2

Here is a link to the manufacturer:

http://www.flysky-cn.com/eindex.asp