

WingstabiProfi v3.56 Hints and Tips

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If you wish to exploit the full functionality of the WINGSTABI in conjunction with the PROFITX, I recommend that you update the transmitter to version V3.56 using MULTIPLEX Launcher; the following expanded settings will then be available:

1) Separate trim channels:

This function makes it possible and permissible to adjust the model's trim in all flight phases.

Without this setting trimming is only available in Flight mode 1, after which you have to carry out what is known as a "trimming flight with trim adoption".

2) Output of WINGSTABI gain values and WINGSTABI status values

on the PROFITX screen at the sensor addresses.

Setup procedure for Profi Tx:

If you wish to use your PROFITX with the WINGSTABI please follow this procedure:

The new V3.56 transmitter software enables you to operate the Wingstabi in such a way that the channels for aileron, elevator and rudder are transmitted without trim values; the trim values are transmitted separately on individual channels.

(It is also possible to transmit the channels with trims; however, in this case you must undertake a trimming flight and transfer the new values to the Wingstabi as soon as you have made any trim adjustments on the model.)

Make a new model with the template WINGSTABI, all mixers and step size are set to OFF automatically with this template. Recheck that the new model uses your normal mode, in my case mode 2 (**Setup Assign.Controls-Mode 2**)

All WINGSTABI versions with or without integrated M-LINK receiver generally accept up to 16 control channels on the input side (or even 18, depending on RC system). On the output side, 7, 9, 12 or 16 channels (the more channels the higher the transfer rate) are available for analog or digital servos, depending on the version.

You only need to assign one aileron, flaps, elevator channel on your radio.

In the Launcher Wingstabi servo output menu just add the other aileron, flap, and elevator servos as required.

A typical transmitter Servo Assignment and Wingstabi input assignment would be as follows

- 1 Aileron
- 2 Elevator
- 3 Rudder
- 4 Throttle
- 5 Gear
- 6 Flaps
- 7
- 8
- 9
- 10
- 11 Gain 3P curve
- 12 Gyro phase 2P curve
- 13 Gyro phase 4 2P curve (Hardly used on «scale models» and can be omitted)
- 14 AileronTr 3P curve
- 15 ElevatorTr 3P curve
- 16 RudderTr 3P curve

(Note channels 7 to 10 can be used for other functions, e.g. retracts)

It is possible to use the trim controllers of your transmitter for separate servo channels, for instance with the Profi TX and the Royal SX (from software 3.52) as well as several transmitters from other manufacturers, you can set up a special trim channel for each

axis and trim your model as normal this way. This trimming then effectively bypasses the gyros and just applies an offset to the relevant servos.

For SAFETY! Add *Throttle-cut* as a «Global switch, then this will be equal on all your models.

Gas models with a kill-switch must have a dedicated separate channel with a 2P curve. Electric models with ESC can use **Throttle-cut** from **Assign.Switches** menu directly.

Define switches to adjust Wingstabi from your Profi TX:

For the Gyro modes there are Two scenarios: Gyro phase 1-4 with two switches, or only Gyro phase 1-3 on a 3 position switch.

Without Gyro phase 4: Add a three-stage switch for Gyro phase 1-3

If I use a scale model I never use Gyro phase 4 and put Gyro phase 1-3 on my three-way switch on top of the aileron/elevator stick.

With Gyro phase 4:

If I have a 3D model with gyro phase 4 activated I use another 2-way switch in addition.

With my three-way switch, which switches between phase 2,3 and 4. Regardless of the current setting, you can always return to phase 1 using the two-stage switch you put Gyro phase 1 on, The three-stage switch then selects phases 2, 3 or 4, depending on the positioning. Phase 1 is pre-defined as "Gyro off" and should be left that way for safety reasons.

Add Gain for adjusting axis from Profi Tx on slider E or F (**Setup- assign.Controls**) Use value 0 down and max 100 upper. (reverse this under **Servo- Servo.Calibrate** if required). The slider can then be used to adjust the gain of the aileron, elevator and rudder gyro settings using the starting value and adjustment range you have defined in the Launcher Wingstabi setup. Note you can define separate controls to adjust the the gain of each axis gyro separately, but it is often easier to adjust them together.

Carry out a binding procedure between the PROFI TX transmitter and the WINGSTABI

Profi TX radio done.

Launcher programming:

Carry out the basic configuration of the WINGSTABI using the ASSISTANT in MULTIPLEX LAUNCHER
Use the USB lead (supplied in the set) to connect the WINGSTABI (connected to the B/D socket) to MULTIPLEX Launcher and start the ASSISTANT. The latter will guide you through the programming procedure.

WINGSTABI without integrated receiver

Set the receiver to output DIGITAL SERVO DATA (= SRXL MULTIPLEX) using MULTIPLEX Launcher.

<https://www.youtube.com/watch?v=-g2Cx7f2t24>

then connect the WINGSTABI to MULTIPLEX Launcher and start the Assistant.

The latter will guide you through the programming procedure.

Close the ASSISTANT, then continue as follows:

Activate the output of WINGSTABI sensor values / telemetry:

Click on the Aerial symbol -> then on to Telemetry

- Change "Telemetry transmission" to **Enhanced** if you have a Profi; this activates the expanded Wingstabi telemetry displays.
- Assign your preferred sensor addresses for Gain and status messages. My choices are:
 - 0: Rec voltage
 - 1: Link Quality
 - 2: Status message (shows what Wingstabi flight mode you are in)
 - 3: Aileron Gain (Shows what gain on aileron)
 - 4: Elevator Gain (Shows what gain on elevator)
 - 5: Rudder Gain (Shows what gain on rudder)
- Note if you using additional sensors, e.g. current sensor then make sure that uses separate addresses

- If you want your Profi TX to announce which phase you're using: **Setup-Sensors-Sensor 2** (Wingstabi phase) **Announcement-by Switch**, choose whatever switch you want.

Save the setting using the flashing arrow.

Check the channel assignment:

Click on the Aerial symbol again.

- Check the channel assignment, most of which the ASSISTANT has adopted for you.
- If necessary, check the transmitter controls for spoiler and flap.
- If necessary, activate the switch for the 4th flight mode by clicking and selecting.
- **Important:**
At this point you have to define the Gain, Flight modes, trim channels for aileron trim, elevator trim and rudder trim:
- Define channel 11 for Gain channels adjust during flight for Aileron, Elevator and Rudder
- Define channel 12 for Flight modes
- Define channel 13 for the 4th flight mode if you're using it.
- Define channel 14 for Aileron trim
- Define channel 15 for Elevator trim
- Define channel 16 for Rudder trim
- Define channels for any other functions, e.g. retracts, tow release etc

"Trim flight" not needed if you have a Profi Tx (or Royal Sx with latest firmware)

Check the direction of rotation and travel of the servos:

Click on the Servo symbol:

Be absolutely sure if you use analog or digital servos.

Hitec servo help, just click on the light bulb to get help on hz settings.

- Mechanically adjustment should be done first.

This assignment has NOTHING to do with the servo channel assignment (coming from the transmitter) at the input side. You are completely free to choose here. It is nevertheless advisable to follow the standard of your RC system, in order to have an understandable assignment in the model.

- Select the appropriate servo in the list on the left.
- Set the center point and end points for all the servos you are using.
- If you wish, you can also activate additional WINGSTABI servo outputs in this menu, two elevators. Aileron, Gear, Flaps.

Model settings

Press the Model symbol:

- If you require mixers, you can activate them in this menu. Basic or extended.

TIP: You can't mix anything into the aileron, rudder, elevator (and flap if using Wingstabi flap configuration) inputs into the Wingstabi, but you can use these as an input into other mixers on the Tx, these then just bypass the gyros.

Enter the gain settings for the various flight modes:

Select the desired flight mode 1 - 2 - 3 - 4 by clicking on them in turn.

At this point you can select each flight mode in turn, and alter the gyro gain for that mode. If you have already activated a gain channel on your transmitter, and activated it at the Wingstabi, you can also activate gain adjustment from the transmitter.

It is not possible to state a recommended general overall set-up, since the flying characteristics of all models vary due to the particular servos, control surface linkages and airfoils employed.

For this reason we have already pre-set the flight mode, and deliberately kept the initial gain values fairly low. We recommend that you carry out test-flights in order to ascertain the optimum settings step by step.

The flight modes 1-4:

- The basic rule is that flight mode 1 has no WINGSTABI function, all Gyro effects are OFF. In this mode your model flies in the usual manner. This flight mode is therefore the most important one: it is the Safety mode in case your settings for mode 2, 3 or 4 turn out to be less than optimum. If this should happen, simply switch back to mode 1, land the model and correct the gain setting.
- Flight mode 2 is the Damping mode, which corresponds to wind suppression.
- Flight mode 3 is the "almost Heading mode", for aerobatics, with slight damping and heading correction.
- Flight mode 4 is the full Heading mode, e.g. for torque-rolling.
- Note if you do not require all heading modes, it is possible to copy settings from one mode to another, so you could copy mode 3 to mode 4 and have 2 "almost heading hold mode" and no torque rolling mode.

Tools

- Transmitter calibration, adjust travel on Profi **ControlFunctions** to be in green zone.
- Servo direction check
- **Gyro effective direction check Important to check!!**
- Wingstabi Manual
- Extended Wingstabi Manual

JOB DONE 😊

Tip:

- When you are using MULTIPLEX LAUNCHER, a small Help text will appear at almost every setting if you allow the mouse pointer to hover over the appropriate field for a short while.
- It is possible to move to the Expert settings by clicking on BASIC at top right. The first time you use it, I suggest that you start by working with the Basic settings.
- FAQ videos include brief guides to setting up:

<https://www.youtube.com/watch?v=snX2pMZIDI0&t=157s>

<https://www.youtube.com/watch?v=5hmbpZmsEWw>