

Basic Setup (6+ channel Receiver and Transmitter compatible)

The Basic Setup provided here gives Ultra Stick PNP owners the most basic presets to help expedite setup and to get you in the air quickly. This includes flaps, dual rates, and throttle cut. There are also switches and channels assigned for use with optional SAFE and AS3X modes (when paired with a Spektrum Smart stabilized/AS3X receiver) and reverse thrust from the included Spektrum Avian Smart ESC. The 6-channel version of the Smart Receiver Model Preset is meant to be used on Spektrum 6-channel AS3X and SAFE Smart receivers, such as the Spektrum AR637T, AR630 and AR631. Likewise, this file is setup for use with the Basic transmitter presets. This file can be imported on to your receiver via the Spektrum PC Programmer app. See links below for model preset import instructions and to download the Model Preset files from the Spektrum File Share directory.

Receiver wiring diagram for Basic 6-channel setups

- Port 1 - Throttle/ESC
- Port 2 - Y Harness right and left Aile
- Port 3 - Elevator
- Port 4 - Rudder
- Port 5 - Open
- Port 6 - Y Harness right and left Flap



Advanced Setup (8+ channel Receiver and Transmitter compatible)

The Ultra Stick PNP ADV (advanced) Model Preset provides Ultra Stick PNP owners with our recommended flight modes and programmable mixes to get the expanded versatility out of their aircraft. This includes Crow/Butterfly, Full Span Ailerons, Elevator to Flap mixing and Knife Edge Mixing. These modes are for **EXPERIENCED PILOTS ONLY!** Please double check for correct functionality on the ground. It is also important, when testing and trimming these modes for the first time, to fly higher than normal to allow time to react to any adverse behavior. There are also switches and channels assigned for use with optional Safe and AS3X modes (when paired with a Spektrum Smart stabilized/AS3X receiver) and reverse thrust from the included Spektrum Avian Smart ESC. The 8 Channel version of the Smart Receiver Model Preset is meant to be used on Spektrum 8+ channel AS3X/SAFE Smart receivers, such as the Spektrum AR8360T. This file can be imported on to your receiver via the Spektrum PC Programmer app. See links below for model preset import instructions and to download the Model Preset files from the Spektrum File Share directory.

Receiver wiring diagram for Advanced 8-channel setups

- Port 1 - Throttle/ESC
- Port 2 - Right Aileron
- Port 3 - Elevator
- Port 4 - Rudder
- Port 5 - Left Flap
- Port 6 - Left Aileron
- Port 7 - Right Flap
- Port 8 - Open



SWITCH LAYOUT FOR TRANSMITTER MODEL PRESETS

6-Channel Basic Model Preset	Channel 5/Switch B (optional Smart SAFE Receiver needed with 6 channel Smart SAFE receiver preset)	Channel 6/ Switch D (Flaps)	Channel 7/Switch E (Thrust Reversing needs configured via Avian Prog)	Other Functions
<i>Use the Ultra Stick PNP Basic model file for simple setups with Flaps, Dual Rates, Throttle Cut, and optiona- use SAFE and Thrust Reverse features</i>	Pos 0: SAFE – Angle Demand	Pos 0: Flaps up	Pos 0: Normal	Switch C: Combined High and Low Dual Rates Switch H: Throttle Cut
	Pos 1: AS3X Stability	Pos 1: Take-off flaps	Pos 1: Thrust Reverse	
	Pos 2: Gyro off – no stability	Pos 2: Landing flaps	Pos 2: Thrust Reverse	
Advanced Model Preset 7 or more channels required 9 or more needed for SAFE/AS3X and Reverse Thrust	Flap and Aileron Flight Modes 5 modes using 2 Switches (A and D)	Channel 8/Switch B (optional Smart SAFE Receiver needed with 8+ channel Smart SAFE receiver preset)	Additional Mixing Modes	Other Functions
Experienced Pilot Skill Recommended! <i>Use the Ultra Stick PNP ADV file to preset advanced flight control features such as Full Span Ailerons, Crow/Butterfly Air Braking, Knife Edge Mixing, and Elevator to Flap mixing. This also includes the basic setup features.</i>	Switch A Pos 0, Switch D Pos 0 Flaps up	Pos 0: SAFE – Angle Demand	Switch G Pos 1/2 Knife Edge Mix	Switch C: Combined High and Low Dual Rates
	Switch A Pos 0, Switch D Pos 1 Take-off Flaps	Pos 1: AS3X Stability	Switch F Pos 1/2 Elevator to Flap Mix	Switch H: Throttle Cut
	Switch A Pos 0, Switch D Pos 2 Landing Flaps	Pos 2: Gyro off – no stability	Channel 9/ Switch E Thrust Reverse	
	Switch A Pos 1, Switch D Pos 1 Full Span Ailerons			
	Switch A Pos 1, Switch D Pos 2 Crow/Butterfly			

Once the model files are loaded, your receiver is installed with the ports allocated as recommended above, it is VERY IMPORTANT to follow our Preflight Check List prior to maiden flight to ensure proper function and to prevent damage to components.

LEAVE PROP OFF UNTIL PREFLIGHT CHECKS ARE COMPLETED AND READY FOR FLIGHT

Preflight Check List

- **Set Sub-Trim for your model** – even though this is a PNP model, your sub-trim values will likely be slightly off from what is set in the model presets, this is due to variations in control rod lengths and servo arm placement on the servo output spline.
- **Test controls for correct movement with corresponding stick inputs** – If you are using an out of the box PNP model with no change in hardware, the presets will function properly, but it is always a good idea to confirm these movements before every flight. If they are incorrect, please refer to the wiring diagram above and ensure your servos are plugged in as designated.
- **Check Servos for binding** – Move your controls to their max throws in each flight mode/mix and observe the servo arms and linkages for binding. If binding occurs; make sure servo arms and linkages are installed properly and per the model's instruction manual, use additional tuning of the Absolute Travel Menu to restrict movement of controls if being pushed beyond their end points to the point of binding. (This has been performed on our Model Presets BUT it can occur from variations to your servo arm positions, control travels and sub trim settings)
- **Take your time to understand what each switch position does** – One great tool to help prevent confusion in flight is the Audio Events menu. Use this menu in your Spektrum Transmitter to have your transmitter call out which mode and switch position you are in with a recognizable call out or sound. *(Audio Event menu not available on DX6e or DX8e)*
- **IF using Smart SAFE/AS3X Receiver Model Presets, Access Forward Programming menu and perform the following...**
 - **Select “Relearn Servo Settings” to ensure the receiver records your transmitters servo settings**
 - **Adjust Receiver Orientation setting to match the position of your receiver via the “Orientation” Menu**
 - **Test SAFE/AS3X modes for proper control corrections** – If these are incorrect, repeat receiver orientation setup and relearn servo settings function.
- **IF you have setup Thrust Reversing via the Avian Prog menu or with the Spektrum ESC Programmer...**
 - **Ensure that the Channel and Switch you have selected is NOT occupied by another function**
 - **Check motor for correct rotation in correspondence to your assigned switch** – If this is incorrect or not to your preference, simply reverse the channel in the Servo Setup menu

Maiden Flight and Post Initial Flight Tips

One helpful feature that we have enabled with our model preset files is the ability to have different Elevator Trim locations for each of the 5 flight modes. The preset Flap to elevator compensations is a great place to get started, But (depending on flying style, airspeed, Center of Gravity, etc) those values may not be comfortable for you. Instead of trying to adjust the elevator settings in the Flap menu to correct adverse pitch behaviors, simply use the elevator control trimmer during flight to trim each mode to help keep your model flying in the attitude you prefer. Do this for each Flap position and when deploying Crow/Butterfly at a comfortable height and appropriate air speed for the current mode.

Another tip is to take it one step at a time when experimenting with the Advanced modes and mixes. Use only one at a time until you have a good feel with how the model flies in that mode. Test these modes at various airspeeds and high enough to recover in the event of a stall.

In regard to the 2 Advanced wing control modes: Full Span Aileron and Crow/Butterfly. Full Span Aileron control will give the pilot faster, tighter, and more axial rolls and turns. But it also increases the sensitivity of the roll axis on the aircraft. For that reason, we recommend starting in Low Rate when using this mode. It may also be advantageous to increase the Aileron Expo values if you are struggling to produce predictable and fluid roll movements. Crow, also known as butterfly, is an excellent mode to help slow down your aircraft while coming in for your landing approach. This function, as you will notice, pushes both ailerons up and the flaps down to nearly their full deflection, creating equal drag on the wing's top and bottom airfoil. This mode can alleviate much of the adverse pitch affect that comes from using just the flaps to reduce airspeed. But, while in this mode, your roll rate is greatly reduced. Because of this reduced rate, Crow should be used only while the wing is level. Also, it is not recommended to fly with Crow deployed during fast forward flight. It is best to initially burn off airspeed before deploying Crow to help prevent strain and damage to the airframe and electronics.

For those that choose to use our Smart SAFE/AS3X Presets – The SAFE angle limits can be tuned to your liking. They are set conservatively in our preset but if you wish to increase the roll and pitch maximum allowed angles, follow these brief instructions. Access Forward Programming > Gyro Settings > SAFE Settings > Angle Limits. In this menu you can increase the max angles for your SAFE flight mode. This preset is fully functional and customizable. The preset gains are perfect for the stock setup but if you change the power system and/or servos, you will likely need to adjust gain settings.

And lastly, we encourage you to experiment with these settings. Change switch positions, adjust values, create your own mixes, and enjoy the hobby! The Ultra Stick is an excellent aircraft to learn more about the dynamics of what your Spektrum transmitter, receivers and power systems can do. It will help you learn how the mixes we have presented to you can be used, not only in your Ultra Stick, but in your other aircraft to make them fly smoother and more predictably, increase aerobatic performance, and look like a pro at the flying field. Also, with the preinstalled Avian esc, you can take advantage of ESC and Battery telemetry. Giving you the benefit of helpful preset alarms and the ability to review post flight telemetry data to help tune and customize your aircraft for power, efficiency, and optimal flight times. *If you decide to experiment, one important suggestion is to create a "back-up" of your settings. This is important in the event that you inadvertently change something that causes the model to not function correctly.*

Thank you very much for being a valued Spektrum and Hangar 9 customer! If you have any questions or concerns, feel free to reach out to us on social media to chat with our team. ~SpektrumRC