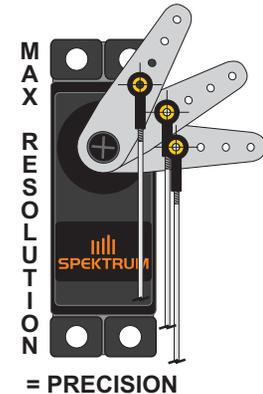


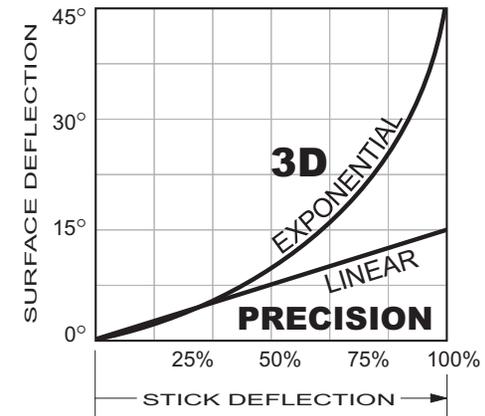
Control Optimization



Control Hookups
Dual Rates
Flight Modes/Conditions



Exponential
Differential
Mixing



NOTICE: Learning to program modern radios is unquestionably the greatest hurdle for most pilots. However, the simple solution is to create another model memory in the radio for each airplane that won't be used for flying so that you are free to learn and even experiment with the settings without any concern about messing things up. Also note that trying to learn how to program a radio sitting on a couch reading the manual does little good. For things to make sense, you must have the airplane in front of you with the switches on in order to see cause-and-effect. When concerns about making a mistake are removed because you're going to end up erasing the practice model memory at some point, you may actually find learning to program the radio stimulating and fun!



Control Setup Introduction

There are a number of control setup fundamentals to consider before a pilot can begin taking advantage of the radio capabilities aimed at fine tuning a precision flying setup. Firstly, how a model handles (and thus the skills required to fly it) is mainly determined by how fast and how far the control surfaces deflect, regardless of whether the airplane is small, large, high or low performance. I.e., it's possible to make a high performance aerobatic airplane relatively docile by reducing the control surface travels, or make a primary trainer reasonably responsive by increasing travels. In short, YOU primarily determine how an airplane will handle.

Thus, while the manufacturer's recommended low rate and expo percentages are usually ok starting points, don't make the mistake of thinking that they are what the manufacturer intends you to stay with or get used to. Sticking with the logic that the "best" airplane setup is the one that compliments the type of flying the person does most often, each pilot must fine tune the controls to suit his or her current skill level in order to fly their best.

Furthermore, whenever you here someone claim that one aerobatic airplane flies better than another, if you exclude psychological influences, the differences are usually setup related and often both can be made to fly equally well simply by changing a travel or exponential setting for example. Indeed, once you've graduated to a tapered wing plane like an Extra, Edge, MX, Cap, Sukhoi, Yak, etc., they are all equally capable and any differences that are not setup related are usually so minor that only an expert flyer could detect them. What matters is will yours be set up to promote rapid advancement and how far will you take it?

It's important to note that airplanes set up to achieve the extreme control surface deflections needed to fly 3D also require large amounts of programmable exponential to reduce control sensitivity around neutral. However, using large amounts of expo means sacrificing the 1-to-1 correlation between the control inputs and airplane response that's so important during precision flying. Thus, when not flying 3D, you should avoid using large amounts of expo in order to maintain a more predictable "linear" control setup favorable to precision aerobatics, takeoff and landing, etc.. In fact, for a lot of reasons, most pilots would be wise to delay the distraction of trying to set up their planes for 3D until their skills and confidence have evolved to where 3D flying is even an option. The point is that it doesn't matter what the airplane is capable of it fails to survive long enough to start trying new things. Consider that every year thousands of perfectly good aerobatic airplanes are damaged or sold simply because they are set up for what pilots hope to do with them in the future, but in the mean time they end up looking for another airplane when the one they were flying proves too difficult to fly (and land). On the other hand, those who set up their airplanes to suit their immediate comfort level not only experience a boost in confidence that enables them to concentrate on flying well, their success just made any future goals more likely to be achieved.

KPTR: Sometimes the best solutions are so simple that they're easily overlooked....To immediately start flying better, adjust the travels to your liking, rather than you trying to adjust to the plane!