

Training – Transmitter/Receiver Selection

Last month we spoke at some length about the techniques we can use to move the sticks of our transmitter to affect the desired control of our aircraft. We considered using our thumb and index fingers together, we considered using thumbs only and also the possibility of migrating to some combination of both. We did not however consider which type transmitter/receiver system we might want to be using. This month we will do a **very superficial** review of recent transmitter improvements to help new pilots decide what is best for them.

In the early days of radio control, now over 60 years ago, and even up until quite recently, most model radio control systems used the 27, 72 and 75 MHz FM (frequency modulation) bands. Within each of those bands crystals are used to choose individual frequencies for a given transmitter/receiver pair. Some of the early transmitters were rather big, thick, “clunky” things which had limited function and were based on the then-current state-of-the-art radio technology as well as the then-current FCC regulations. There were some shortcomings with them, not the least of which was the possibility that a fellow pilot could turn on to the same frequency as you and send you into the ground; or if the roles were reversed, you could send him into the ground. This is not a good thing for relationships! This problem caused the development of frequency control techniques such as the clips, pins, flags, boards and transmitter impound schemes we still see at every flying field. These control methods kept the problem at least tolerable. And those FM radios got some improvements like Pulse Code Modulation (PCM) over the years, which provided a stronger link from transmitter to receiver and they served us well for a long time.

But, things have really improved in the past few years with the advent of the 2.4 GHz systems. And, this is one case where we can really thank the federal government for coming to our rescue! What they did when they developed the rules for the new 2.4 GHz band, was to decree that before any device could transmit, it must locate an unused frequency within the band. It can then stick with that frequency (or in some cases two frequencies) or it can scoot around and continually select different frequencies so long as it first checks to see that each is not already being used. This means the chance of getting two planes on the same frequency is gone! Can't happen! What a great thing!

The major RC radio producers jumped on this new 2.4 GHz band just as hard and fast as they could and it is all good for we aero modelers!!! Here is a partial list of the advantages:

- No more getting “shot down”
- No waiting for a frequency pin
- No more concern about “noise” from your motor, speed control etc. causing interference (it's in a different frequency range)
- No more long telescoping antennae to forget or bend
- No other type device can interfere with your connection to your plane
- No more need for frequency pins, flags, etc. (**Note however: while this is technically true, the club has a 2.4 GHz section on the board, and we**

continue to use frequency pins (even on 2.4GHz systems) so the pilot stays familiar with use of the frequency board in case we use 72MHz, or some other frequency, from time to time. It will be a while before everyone is on 2.4GHz exclusively.

There are other advantages to the 2.4 GHz systems, but you can read each manufacturer's claims in their respective advertisements. My take is that while they differ slightly in how they accomplish the goal, each of them has succeeded very well, and we are the beneficiaries. It is a good time to be flying RC and it is a great time to be getting into RC flight.

As with any decision, the selection of a transmitter/receiver system depends on your circumstances, preferences and other factors, and is certainly a personal decision. It may be that a neighbor has an older 72 MHz system he will give you or sell cheap. Or, maybe you have one already and just don't feel compelled to change. And, you can be sure that there is still lots of life left in the 72 MHz systems. In fact, now that a lot of pilots have converted to the 2.4 GHz systems, there is not nearly as much traffic on any of the 72 MHz frequencies.

The goal of this column is simply to give a little bit of an overview to help new pilots with their transmitter selection decisions. If you still have questions, or feel uncertain about which type is best for you, feel free to ask a member of our training staff or any other club member for information and advice.

Until next time...remember to try something new each time you fly.

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