

Please note the following report on a recent incident at the Lenn Model Airpark. I was a witness to the event and the subsequent testing and can attest to its accuracy. The report was generated by the flyers involved. It details an occurrence of “dual-binding” where two different transmitters were unexpectedly able to control a model. This involves a main or primary receiver bound to one transmitter and a satellite or remote receiver bound to a second transmitter. Here the remote receiver was used as means to convert the model for use with a different transmitter and protocol. Note that for this remote receiver and for some other remote receivers, binding is retained without being connected to a main receiver. Users of any remote receivers are encouraged to study this report and depending on their configuration(s), perform tests to insure they avoid a dual-binding result where an installed remote is differently bound (transmitter and/or protocol) than the primary.

-Gordon

OMP Hobby M2 Explore incident – Culpeper Model Barnstormers

Background:

An M2 Explore electric helicopter was purchased some time ago with the Ohio Model Products (OMP) 2.4 GHz protocol flight controller/receiver and an OMP T6 transmitter. The heli was bound to the OMP T6 Transmitter and worked perfectly. It was flown for about a year and then only the M2 heli was passed to a second flyer. A new M2 heli was bought and bound to the T6 transmitter by the first flyer.

The second flyer attached a Kensun micro receiver (Spektrum compatible) to the acquired heli and bound it to his Spektrum transmitter. This set up had been successfully flying for months prior to the incident. Note that the Kensun receiver is plugged into a serial port on the OMP flight controller/receiver much like a remote receiver.

Incident:

Both the first and second flyers were present at the air field, along with their respective M2s. The first flyer powered up the T6 transmitter, the newer M2 heli, and began flying over the main runway at one of the pilot positions. The second flyer powered on his Spektrum transmitter then plugged a battery into the M2 heli that he had acquired from the first flyer. The heli immediately went to full power and began destroying itself. No injuries occurred.

Analysis:

It occurred to the flyers that the heli with the Kensun remote receiver was somehow bound to both the T6 and Spektrum transmitters (dual-binding). Testing proved this was in fact occurring. When the T6 transmitter was powered up it was found that the M2 that had been originally bound to the T6 was still bound to the T6. When the Spektrum transmitter that was bound to the Kensun receiver was powered on, it was found to have no effect on the heli. When the Spektrum transmitter was powered on and the heli (with the Kensun receiver) powered up and bound to the Spektrum transmitter, the T6 has no effect on the heli when the T6 was powered up.

The OMP controller/receiver on the heli with the Kensun remote receiver was reset, the T6 was still bound to it. It does not appear that the T6 transmitter and OMP receiver can be un-bound once bound.

Conclusion:

OMP Hobby was contacted and the conclusion is that the T6 may be bound simultaneously to up to 10 OMP protocol models. In the absence of an OMP transmitter signal, the remote receiver signal is used, however the T6 binding is still active and will be used in the presence of a T6 signal if it appears first. So for the OMP controller/receiver with the Kensun remote receiver installed it's dual binding will use which ever transmitter signal it sees first. From the tests conducted by the flyers it appears that once a signal source is in use by the OMP flight controller, it will continue to use the selected source and ignore a competing source (first come-first serve). According to OMP this event is the only dual-binding occurrence to be reported to OMP. OMP is sending a new, second T6 transmitter to allow these flyers to de-conflict T6 use.