

**B**efore using any remote control radio system it is always a good idea to perform a check to verify the operating range of the system.

It is not necessary to verify the range with the transmitter aerial fully extended as a check with the transmitter aerial in the retracted position will give representative results. As a rough approximation the range on the ground with the aerial up will be ten times that obtained with the aerial down although, of course, if the retracted aerial is particularly long or short, this will affect the figure.

### One transmitter only

Since transmissions from other transmitters in the vicinity can affect the result, the test should take place with only the test transmitter operating. Ideally, a clear open field should be used as a test area, but a test along a road or path will be satisfactory provided that an allowance is made for the localised, signal distorting effects of parked cars and other large metal objects.

Two people are needed for the test. One should take the transmitter with the aerial retracted and operate it as if flying the model, moving a control stick to operate a servo in the model. The other should walk away from the side of the person holding the transmitter, with the model held at right angles to the direction of walking so that the transmitter and receiver aerials are approximately parallel.

### Seventy paces

With the model at waist height, a range of at least 70 paces should be obtained and can be verified by observing the servo or control surface on the model. The servo should smoothly follow the transmitter

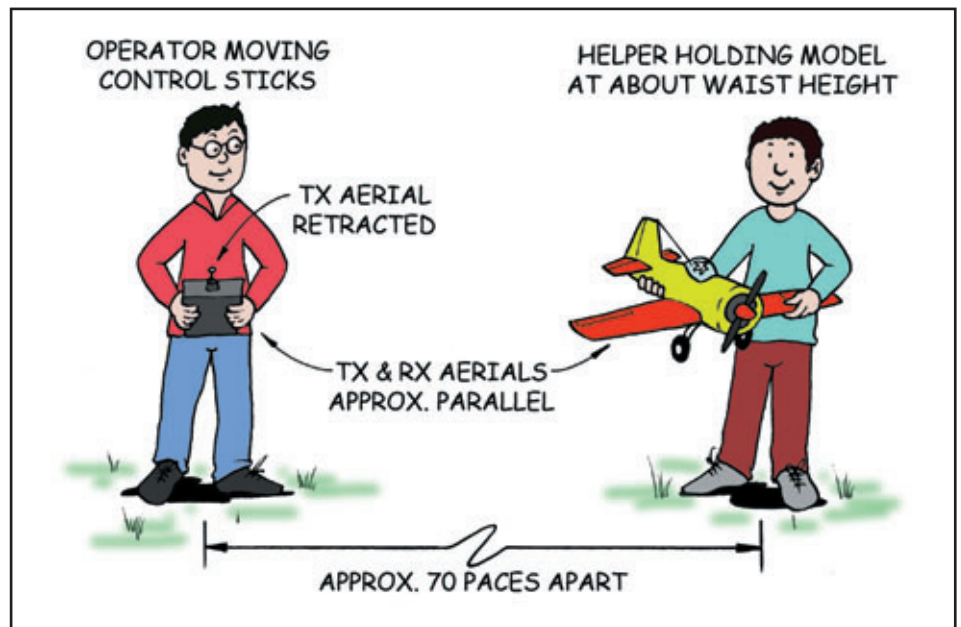
commands without chattering or hesitation. If the model is held lower, the range obtained will be less and if the model is held higher, the range will be more. Pointing the receiver aerial at the transmitter will dramatically reduce the range.

The radio signals are emitted from the side of the transmitter aerial. Only a very small signal is sent out from the top, along the aerial's axis. Similarly, the receiver picks up the strongest signal when its full length is exposed to the transmitter. If the receiver aerial is held in a straight line and pointed at the transmitter, only

Taking the end of the receiver aerial to the top of the tail fin is strongly recommended.

### Ground absorbtion

The ground absorbs radio signals and makes them weaker. As a model moves away from the ground, the available transmitted signal gets much stronger and because of this, the air range might be two or three times the ground range.



Proper range testing is a two man job, so ask a friend to help out. You can return the favour when his equipment needs a check out!

the diameter of the receiver wire is available to pick up the signal and the result will be a very short range. For these reasons, we recommend that the transmitter aerial is not pointed at the model and the receiver aerial is arranged in two dimensions so that whichever way the model turns, there is always a good length of exposed receiver aerial to pick up the signal.