

RF on the Coax

Due to the large radiation at the EH Antenna, there will be some RF coupling to the coax. Whether this is a problem is dependent on the radio you use. Some are subject to RF coupling into the audio system, which causes severe distortion while transmitting. On some field day setups with 100 watt transmitters we have had so much RF on the radio you can get an RF burn. Below we have suggested ways to eliminate the RF coupling problem.

If you use RF beads, since the coax shield is not a magnetic shield, the beads affect both the inner and outer conductors. Therefore, most of the transmitter power will be converted to heat. Not good.

Use of a small choke made of several turns of the coax is good.

We find that a wire connected to the ground side of the coax at the antenna and connected to either a ground rod or a wire laying on the ground will eliminate RF problems - in most cases. For some radios we also need to add a ground wire to the radio.

A preferred method is to run the coax to ground then back to the radio. Near ground, connect the shield of the coax to a ground rod or radial.

Another method is to connect a wire from the radio to ground. If the radio is very far from ground you will need to add a series resonant circuit in the ground wire to effectively cancel the inductive reactance.

It may take one or more of the above to solve your problem. Remember that if you have a good ground on the antenna, you have also minimized problems with lightning.

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