# An efficient HF antenna for your RV

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Tired of a small low-efficiency mobile antenna when you're parked in an RV park? Try this novel use of two ***WorldRadio*** SD20 carbon-fiber masts for a full-sized antenna on your RV.

I have long wanted a "real" antenna, something better than a mobile whip, when I'm static-mobile in an RV park. I gave up on sling-shot long wires and push-up TV masts long ago — too much work. Today, two ***WorldRadio*** SD20 carbon-fiber-composite telescopic masts are an excellent and easy-to-erect answer. With one at each end of my 5th wheel, merely slipped over permanently-mounted short TV masts, I can very quickly put a full end-fed half-wave on 40M over 25 ft. into the air.

The actual antenna is 65 ft. of 1/8 in. stranded stainless steel aircraft cable that spirals up the front mast, runs across to the other (graphically added in figure 1) and partway down the back. At this length, the wire resistance is of no consequence compared to radiation resistance. Stainless steel works just as well as copper and is more durable and convenient. You can make the wire longer if you wish, for extending to a convenient tree if available. Merely coil the excess at the far end and tape it to the back mast.

At 100 watts I use a random-wire automatic antenna tuner with my ICOM 706 MIIG. In RV parks that have a 50 amp electrical hook up, I run a linear amplifier and a high-power manual antenna tuner. I ground the tuner from inside the rig with a short strap directly to the aluminum skin of the RV. For a plastic-shelled RV you will need to drive in a temporary ground rod.

The antenna wire runs straight up from the tuner and exits through a small fitting in the roof made from common 3/4-inch threaded plastic pipe fittings and some neoprene O-rings. If you do not prefer RF right at the rig, use a short piece of high-quality RG-8 coax without connectors for the run to the roof. More than roughly five feet and the tuner may not tune the higher bands. Ground the system at the roof, not at the rig. The tuner will easily compensate for the coax, and the loss is minimal in such a short run. Weatherproof the top end of the coax and provide some means to quickly disconnect it from the antenna wire for disassembly and transport. I use two large crimp-on ring terminals, a stainless bolt and wing nut.

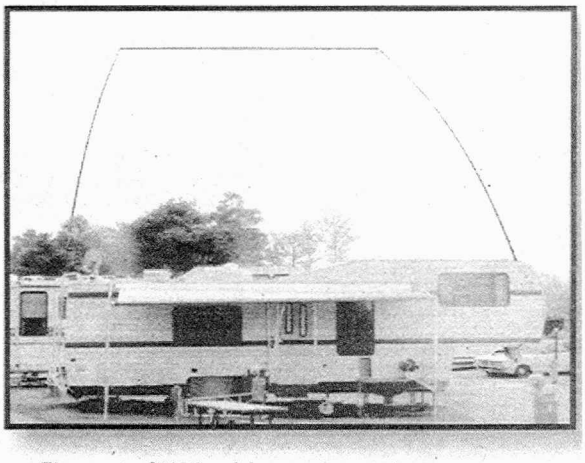

Figure1. SK20 whips mounted at opposite ends of my 5th wheel RV. Wire is 68 feet total, running up from mast, across top and partway down rear mast; creating a full half-wave on 40M.

I permanently installed two common five-foot steel TV masts at opposite ends of my rig. The rear TV mast is U-bolted to the ladder. I fabricated the front mount for the TV mast from the common 1" water pipe materials bolted to the fifth wheel hitch, figure 2. The shell of most RVs is too flimsy. The SD20 telescopic masts then quickly slip over the TV masts and stay in place without clamping. They do, however, need strengthening at the base to tolerate the sideways torque of the antenna wire in high winds. I use three common stainless steel hose clamps placed close

together at the base and tightened gently. This antenna has easily tolerated some very strong breezes in beach RV parks. The little flag is optional, although it does help other campers to not wonder what the strange-looking structure on my rig is.

Do not run the antenna wire through the middle of the masts — it is too difficult to erect this way. Merely lightly coil it externally around the masts as you are erecting it, securing it at the top and bottom with several wraps of good-quality electrical tape. When you have put the whole antenna up the first time, mark the taping spots on the wire. I can climb to the top of my rig and put this antenna up in ten minutes at most. Grandkids also train easily for this chore. The whole structure disassembles and rolls up very easily for transport.

This antenna is certainly not a three-element beam. But it definitely competes far better on the bands than a mobile whip or screwdriver-type antenna. Perhaps my biggest pleasure is to check in to an RV net and tell them that my big signal is coming from a "mobile." This normally generates a good rag chew.

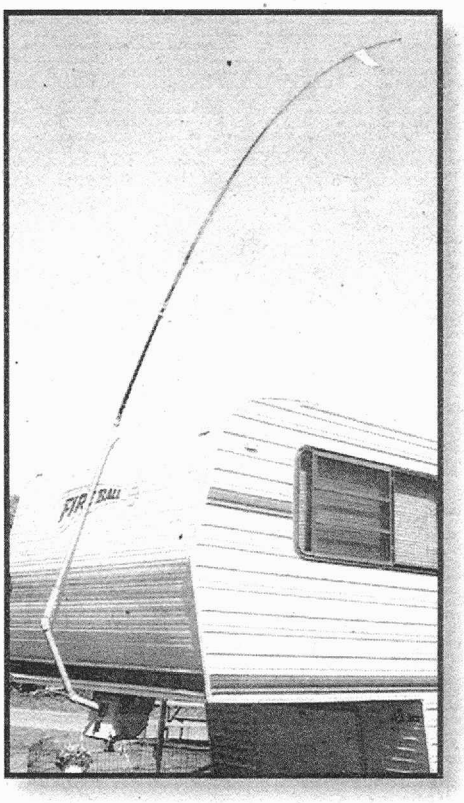

Figure2. Mast and front mount fabricated from 1 1/4" water pipe and 5 ft. TV mast