PVC Goes Camping

Full-time RVers, take note!

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Now that summer has arrived, it's time to get out the camping equipment. My list starts with: QRP rig, CW key, mike, coax, some wire, slinky...Did he say slinky? Did he mean the Slinky™ kids play with?

Yep, sure did. Seems the Slinky vertical fits into the camping box better than the 25-foot trap vertical or the poles needed to hold up a dipole. The Slinky is cost-effective; last time I bought one it was under $2.

Why a Slinky?

I camp quite often at the Lake Mead National Recreation Area. The total number of trees is zero, meaning that any antenna must be self-supporting. The soil in the area varies from soft silt to hard as cement, making it necessary to devise a method that will not require that the ground conductivity be a factor. The structure supporting the Slinky must be flexible, lightweight, strong, and easy for one person to manage. With these requirements in mind, I designed the Slinky Vertical. A standard Slinky serves as the main radiating element, and common PVC tubing provides the support structure. The resulting antenna is quickly assembled, easily moved, and can be stored in a very small space.

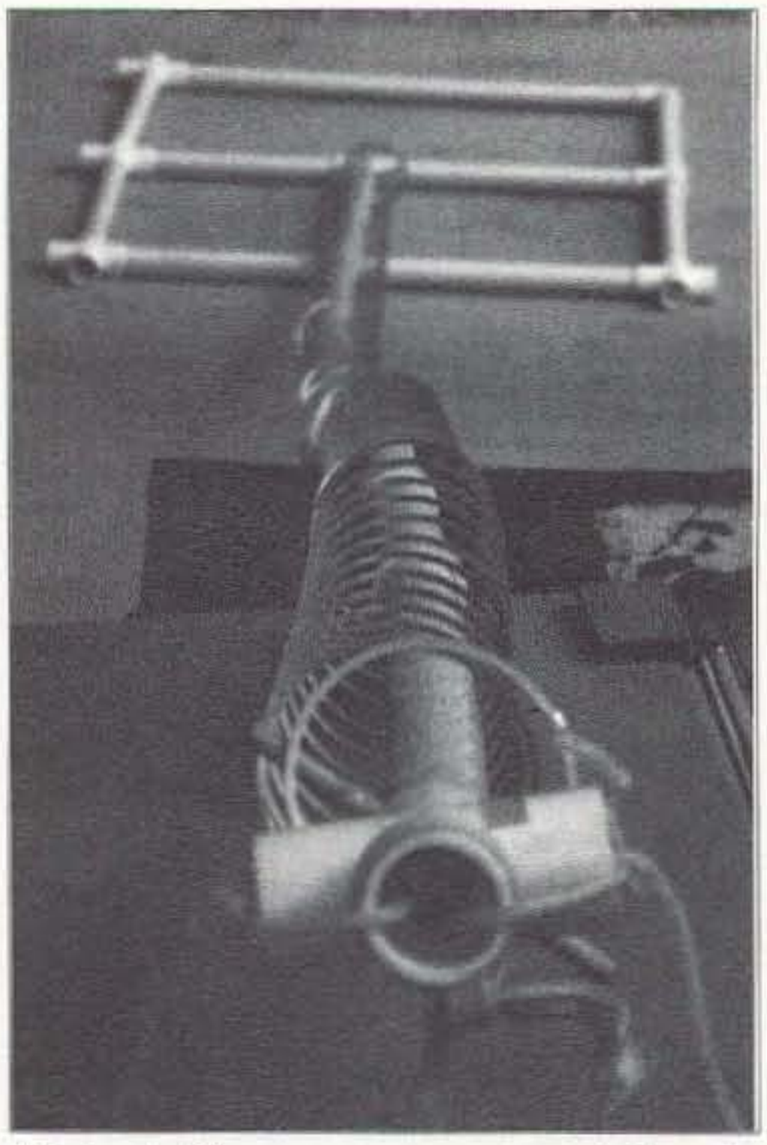

Photo A. *The top guy ropes are tied to the upper PVC cross before the antenna is erected.*

Construction

The PVC is cut into sections that fit into the bottom of my camping gear box. This makes it easy to store and carry. Other PVC pieces required include: double females, tees, and crosses. Precutting several pieces at home to form the base saves time later at the campsite. My version used a square base, but feel free to modify the dimensions to fit your particular application. This system is assembled on the ground and set upright when completed. A T-shaped PVC piece is required in the center of the base to control the bottom of the vertical support. Two of the vertical support pieces must have 1/4-inch holes drilled through one or two inches from the end. Two 6-inch by 1/4-inch dowels inserted through the holes will secure the Slinky to either end of the PVC mast. The remaining sections with associated female connectors are assembled to make the vertical support. The PVC pieces with 1/4-inch holes in them are placed at the top and bottom of the vertical support assembly.

Insert a dowel into the lower section of the support; it can be held in place by a rubber band. Place the Slinky over the support, hooking a couple of coils over the dowel. Put the other dowel in the upper support, then stretch the Slinky along the full length of the PVC assembly, hooking a couple of coils over the upper dowel. Again, a rubber band can be used to hold the dowel in place. Place

Photo B. *Entire station set up at home, prior to going camping.*

a PVC cross-shaped piece on the top. Attach lightweight guy lines to this tie point. (*Caution: Depending on how tall you have made the support, you may need guys in the middle to keep it from bending.* A PVC cross may be placed in the middle of the vertical support as a tie point. Experiment at home before going camping.)

Now the tricky part: Tie off two guys loosely with enough slack to allow the antenna to be placed upright. Stand the structure up and tie off the third guy. Now go to each guy and adjust accordingly. The antenna shown in the photos is 13 feet tall and works well with just top guys.

The Slinky will stretch taller; in that case you will need to guy the structure in the center. I've used it to 18 feet with two sets of guys. The length of the Slinky if it's stretched out is approxi-

mately 67.5 feet of radiator, close enough for a quarter wave on 80 meters. This configuration is a high Q design. To lower the Q and increase the bandwidth, add a capacitance hat. You can use a short vertical rod or a round piece of metal for the hat. The vertical rod is the easiest to use. Simply tape it to the PVC and use a jumper from the Slinky to the rod. If you plan on running high power, the hat is required.

If you camp where there is no place to anchor the guys, you'll need to improvise. I've used my spare tire, tools, the camping box partially filled with sand, a garbage bag with sand, or whatever was handy. The entire antenna system only weighs a few pounds but your anchors should be heavy enough to hold it in place if the wind picks up. Use your imagination and have some ham radio fun.

On the air

Well, that took 15 minutes, so let's get on the air. Gator clips were preinstalled on the coax so connect the center lead to the Slinky, the shield clip to the ground wire, and the other end of the ground wire gets thrown into the lake. When the lake isn't available I just make a wide circle around the base of the antenna. Either way, it radiates. You may want to cut radials for each frequency you will operate.

I've found most campgrounds don't have enough room to string out a standard set of radials. In this situation, run coax into the back of the rig. Hook up the rig to the coax, power supply, CW key, and mike. Turn on the power supply and the radio. Now the magic...check the SWR...ouch! Sure is high...unkey the radio, run over to the base of the antenna and move the clip on the center lead up the Slinky...recheck the SWR...ouch!...(still high, but better). Keep up this procedure until the SWR is acceptable.

If you want to save the running back and forth, here are two suggestions: 1) Use a tuner and you are on the air in minutes; or 2) Use one of the antenna analyzers on the market. It will tell you almost instantly how far off frequency the antenna is and makes the adjustments much easier and faster. I've used both methods and prefer the second.

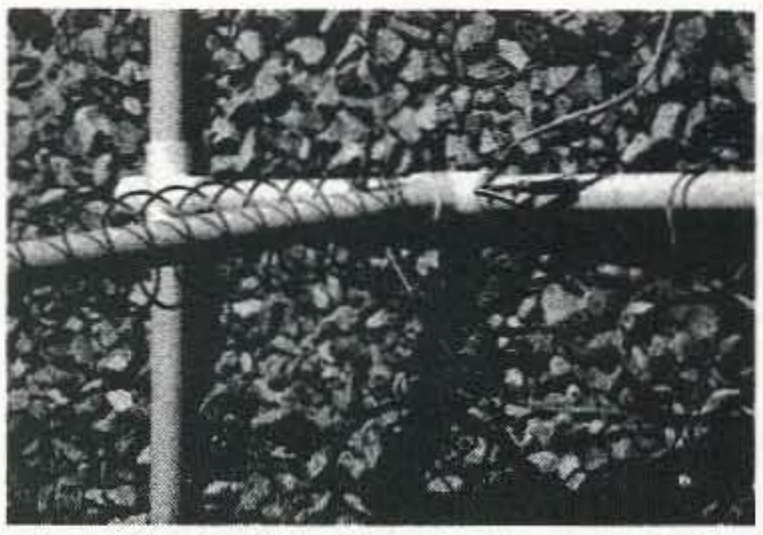

***Photo C.** The left clip is from center lead of coax to Slinky; right clip is shield of coax to radial; 1/4-inch dowel holds Slinky in place.*

Complete campsite station requirements are listed in the sidebar. *Important: Know what kind of connectors you need to make everything work together before you leave home!* 73

Minimum Requirements for a Successful Ham Camping Trip:

Transceiver
CW keyer
Microphone
Slinky™
Power supply with cables to attach to the radio (match power supply to the transceiver's requirements)
Guy lines (heavy twine works)
Guy line anchors
PVC (approximately 20 feet) with necessary elbows, tees, and crosses
Coax with clips installed on one end and proper connector on the other to fit the radio
Scratch paper
Log
Pencil
Ground wire/radials
Spare fuses

Optional:
Tuner
Antenna analyzer
Headphones
Speaker
Tape
Metal plate or rod