

# **An Antenna for Semi-Portable Operations**

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For several years I've had one of the 10 Meter long DK9SQ fiberglass masts from Germany. These parts are distributed in the US by Bill Kelsey, N8ET, at KangaUS.

Although they are spectacular in their size, I have not used mine much in the mountains, for I find them a bit too heavy for backpacking. But mine has seen use around home and for portable operations near the car. This note describes one method I have used to support the mast near a car.

The base of the antenna system is shown in the following photos. The only part shown is the antenna support mast. The way we will use the mast will be determined later.



The basis for the mount is a piece of 3/4 inch thick plywood scrounged from the garage. A piece of 2 x 6 inch fir is attached to it with hinges. The 2 x 6 is opened up until at right angles to the plywood and is fixed in place with a rope that fastens

to the two wood pieces through large holes drilled in them. Additional holes in the 2 x 6 contain more rope that ties the mast to the support.



Detail where the two wood pieces attach via hinges.



**View of the top of the 2 x 6 showing the mounting to the fiberglass mast and the rope that holds the 2 x 6 in a vertical position.**



**View of my little Honda Civic after I drove it onto the assembled support. The fiberglass mast was attached after the car was in place on the wood base. High winds may necessitate guy lines. This topology has the virtue that alignment in one plane can be realized by adjusting the position of the hinge. Some tilting in the plane parallel to the car direction can be accommodated by changing the orientation of the base board. The overall result is a vertical mast, even when the car is parked on a slight slope.**



**View of the collapsed mounting assembly prior to antenna deployment. This will fit, more or less flat in the car trunk, leaving room for other stuff.**

**The antenna itself is made from wire and is attached to the fiberglass. One could erect a 40 meter vertical by supporting the wire along the pole. Some folks have questioned losses in the fiberglass, so they hang the wire a foot or so away from the mast, except at the very top. An alternative 7 MHz vertical could use an elevated feed at about the 6 foot level. This would allow elevated radials to be used. The extra 6 foot wire needed for the vertical element is merely pulled horizontally with a piece of cord.**

**The mast can also be used for an end fed half wavelength of wire for 40 meters. The car body is more than adequate counterpoise for such a system. A suitable matching network is, of course, required. A coax or open line fed dipole is also practical. A favorite multi-band antenna (40 M and up) of mine is a 51 foot dipole fed with 450 Ohm “window” line, or low loss foam 300 Ohm line. This antenna should work fine with this support.**

**There are all sorts of possibilities for the bands above 40 Meters. Even 75 or 80 meters could be accommodated with experimentation. If greater length is needed, 1 Meter extension sections are available from KangaUS.**