

# Near Vertical Incident Scattering Antenna

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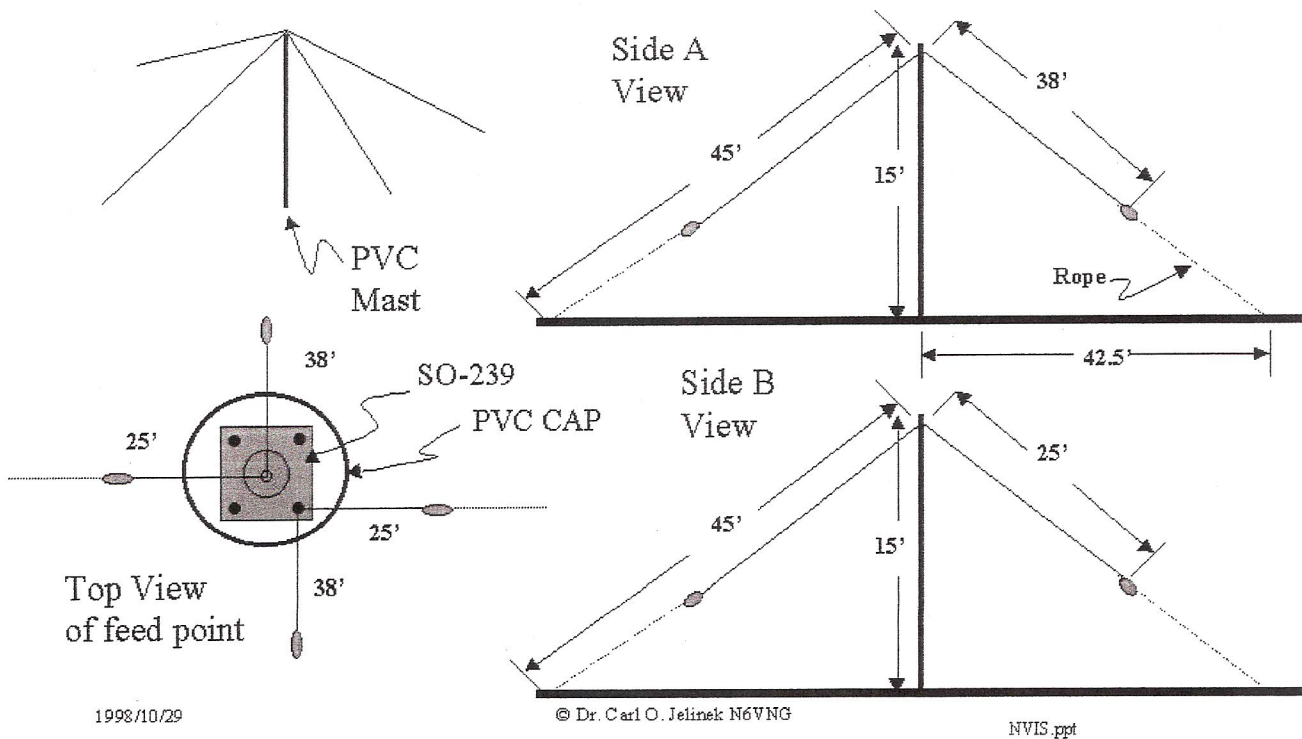
## Why use an NVIS antenna?

- Usable on all HF ham bands.
- To work the Skip Zone (out to about 1000 miles).
- Areas behind obstructions and in dense foliage.
- To hear the near in stations just beyond ground wave range.
- Great for Field Day and contesting as a "Gap Filler" antenna.
- Easy antenna for HF mountain topping and camping trips to get RF out of deep canyons.

## Limitations

- Must work frequencies below the Maximum Usable Frequency (MUF).
- This is not a DX antenna.
- Needs to use an antenna tuner for good match.
- Power Limited to about 200 Watts.
- Beverage Mode Losses limit achievable gain.

## NVIS Antenna Dimensions



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NVIS.ppt

## Parts List

2 ea	1.5" PVC Pipes 7.5' long
1 ea	1.5" PVC Coupling
1 ea	1.5" PVC Cap
4 ea	Egg type insulators
5 ea	Brass Screws, nuts and washers to fit Coaxial Fitting
1 ea	SO-239 or UG-266 Female Panel Mount Connector with solder pot center pin
5 ea	Stakes (One at the mast center)
4 ea	Heavy Solder Lugs to fit brass screws
~150'	Antenna Wire (I like braided ground strip kind)
~60'	Nylon Rope
Coax to Rig	As much as you need. Run it up the center of the PVC pipe mast and connect to the Panel Mount Connector.

## Construction of NVIS Antenna

- Drill PVC Cap to accept SO-239 and 4 screws and nuts
- Mount SO-239 to PVC Cap with screw heads down
- Cut off the head of a brass screw
- Solder a brass screw to center post of SO-239
- Cut antenna wires to length plus a little
- Fit one end of each wire with solder lugs
- Fit the other with the egg insulators
- Install wires to SO-239 using brass nuts and washers {as shown in the figure}
- Erect antenna (2 men ~ 5 minutes)
- Tune antenna match for minimum VSWR (also could adjust mast height and wire lengths)