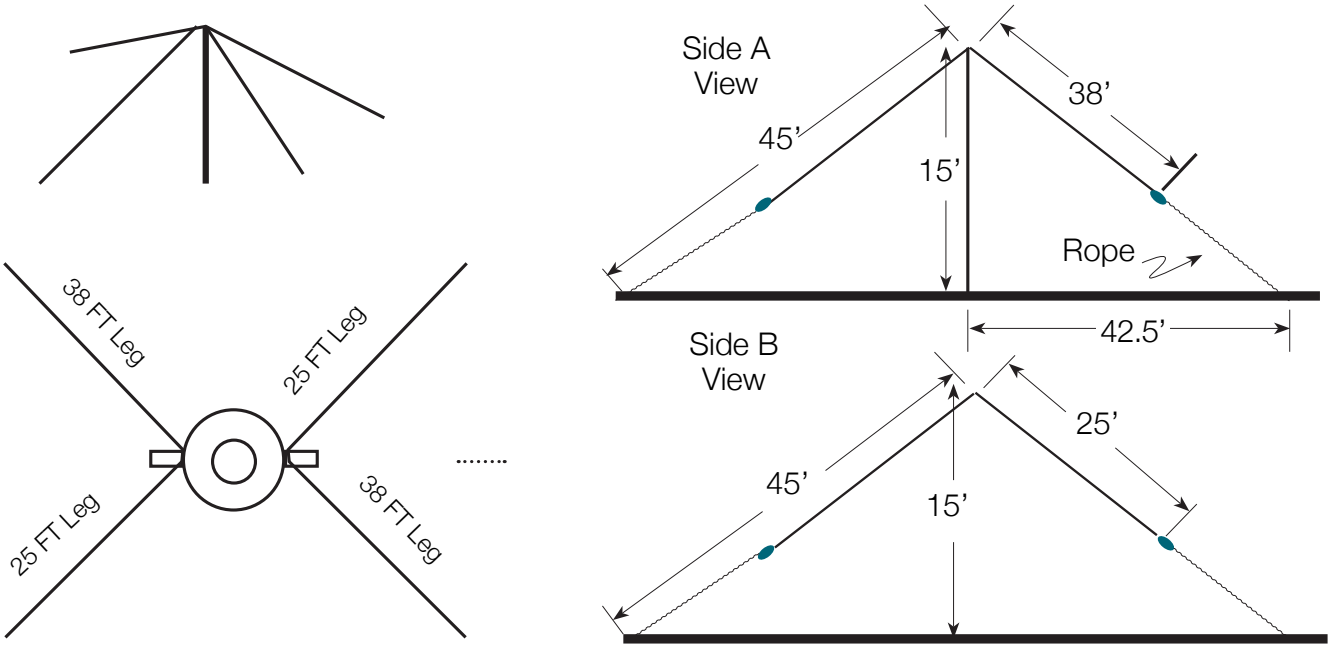
NEAR VERTICAL INCIDENT SCATTERING ANTENNA

EZ NVIS Antenna



The EZ NVIS is ready to deploy NVIS antenna based on an article by Carl Jelnick, N6VNG (SK). He based his design on the AS-2259/GR a military, dual band NVIS antenna set. The antenna comes with a center support and the four assembled and marked antenna elements. You need to add rope, coax and an appropriate mast. The antenna is constructed from 14ga Soft Drawn copper wire.

This is NOT a DX antenna. It is an ideal antenna for tactical HF communications for 75/60/40 meters. It also makes a good Field Day antenna for “gap filling” close in stations on 75m & 40m. It’s also useful in deep canyons, dense foliage, behind obstructions or for communications with close stations just out of ground wave range.

To deploy the antenna roll out the 4 elements. The two longer legs have Black End Insulators. Add rope so that the combined length of each leg is 45’. Attach coax to the center support and connect to a tuner. Raise the center insulator to a height of 12-15’, by either tree or mast. **That’s it!**

Near Vertical Incident Scattering Antenna

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Why use an NVIS antenna?

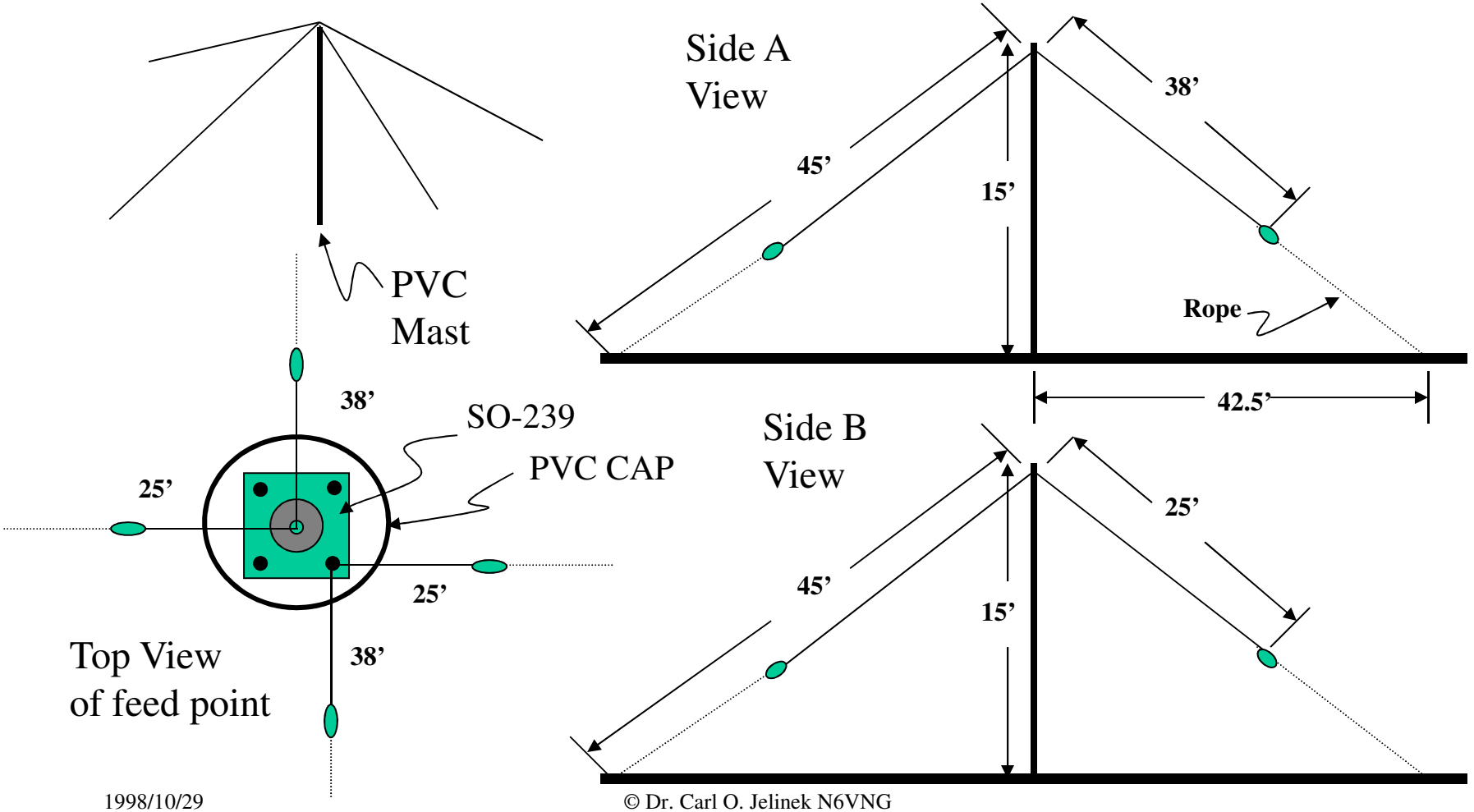
- To work the Skip Zone {out to about 1000 miles}.
- Areas behind obstructions and in dense foliage.
- To hear the near in stations just beyond ground wave range.
- Great for Field Day and contesting as a “Gap Filler” antenna.
- Easy antenna for HF mountain topping and camping trips to get RF out of 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.

468/76=6.15 MHz NVIS Antenna Dimensions

468/50=9.36 MHz



Parts List

2 ea	1.5“ PVC Pipes 7.5’ long
1 ea	1.5” PVC Coupling
1 ea	1.5” PVC Cap (Flat Kind)
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)