

## **Verticals: 108 Models**

The collection of verticals includes both vertical element antennas and antennas with predominantly vertically polarized radiation. Models are in both the .EZ (EZNEC) format and in the .NEC format for use with NEC-Win Plus/Pro and generic NEC-2/-4 cores. The EZNEC-format models use a wide variety of dimensional units, but the .NEC-format models are virtually all metric. The filenames are roughly descriptive of the kind of antenna, the frequency band, and any features that discriminate between models of the same general kind and frequency. As well, models with a known designer identify the person in the filename.

The models tend to focus on the 160-meter through 30-meter bands, where the inability to raise a horizontal antenna to an adequate height makes a vertical mandatory. For those bands, there are simple monopoles over radial systems, shortened monopoles with a variety of hat structures, and numerous wire structures whose dominant radiation is vertically polarized. This group includes rectangles, hennennas, delta loops, quad loops, half-squares, bobtail curtains, Sterba curtains, and Bruce arrays. Variations on basic designs and beam possibilities also have samples. There are also a few parasitic and phased monopole structures.

Besides these basic vertically polarized HF antennas, there are a number of others, including J-poles for 17-meters through 2-meters. The L-antenna and the collinear vertical also appear. A trio of dipole arrays (11, 20, and 30 elements) appears to show the beamwidths possible with this technique. Although some antennas are impractical at some frequencies, the collection tries to sample a wide variety of array techniques adaptable to many frequencies, but mostly within the limitation of NEC-2, where buried radials are not permissible. A number of models of phased and parasitic monopole structures that intersect the ground are therefore omitted.

Although many of the designs may be directly built from the models in this collection, the models themselves are for study purposes. Perfecting the design to a level that permits construction of an antenna that is both electrically and mechanically sound is your responsibility.

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