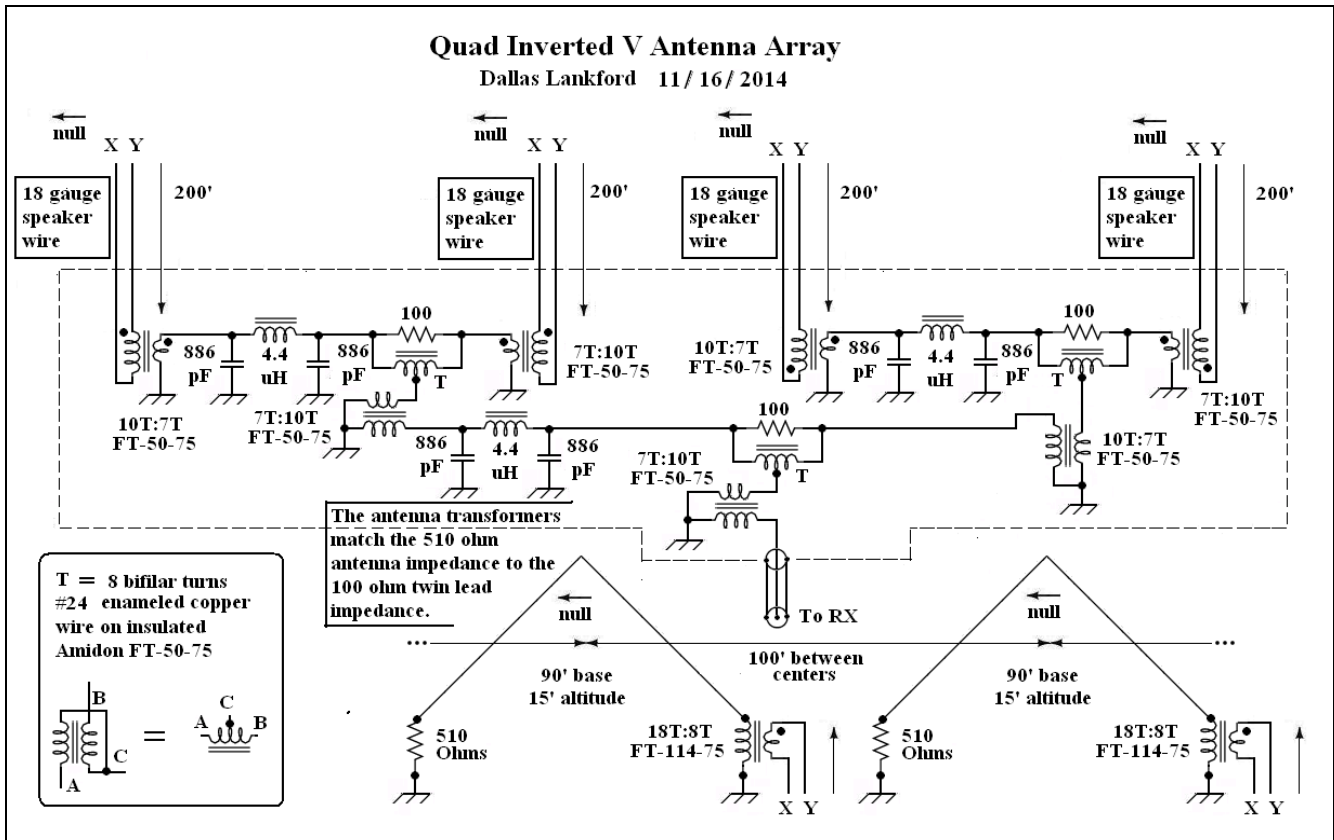


Quad Inverted V Antenna Array

Dallas Lankford

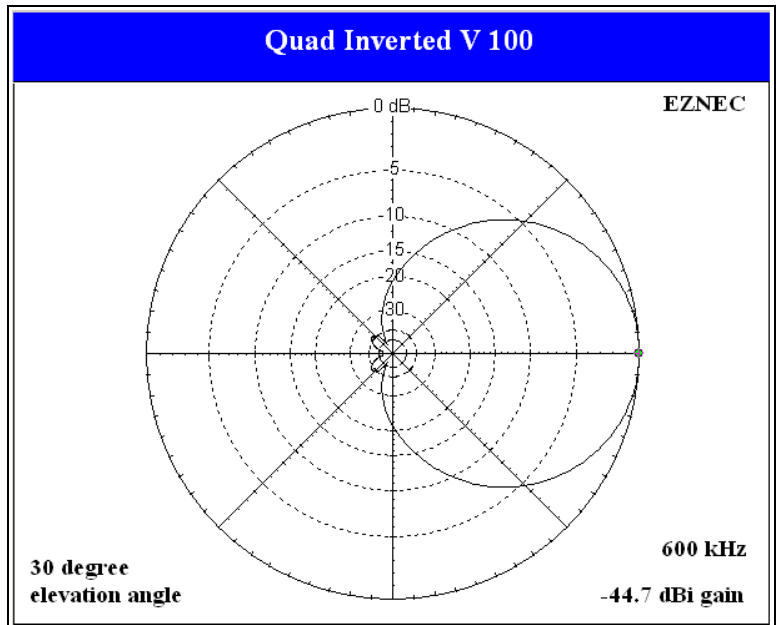
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I have been playing with EZNEC looking at possible new improved antenna designs. The antenna below, a quad inverted V, may be one. I say “may be one” because it has not been implemented and tested. Nevertheless, I believe it will perform as indicated. My age has finally caught up with me; I no longer have the strength and stamina necessary to go on DXpeditions like I have in the past. So I do not know if or when I will implement or test the quad inverted antenna array. However, it has been fun to do the EZNEC simulations.

The pattern of the quad inverted V array at 600 kHz is given at right.

A single inverted V antenna does not have a null nearly as good as a delta flag. But when two inverted V antennas are separated by 100' and phased, the pattern is a cardioid, similar to a single flag. And when four inverted V antennas are each separated by 100 feet and phased as the QDFA was phased, the the pattern is slightly better than a QDFA – the



30 dB null apertures are the same, and the deep null structure of the quad inverted V array is slightly better than the QDFA at 600 kHz. At higher frequencies the deep null structure of the QDFA is slightly better than the quad inverted V array.

The remarkable thing about the quad inverted V array is that its gain at 600 kHz is about 13 dB greater than the gain of the original QDFA. If the original deltas of the QDFA are enlarged to 90 foot bases, like the quad inverted V array, the gain of the quad inverted V array is 9 dB greater than the enlarged QDFA. In any case, it is likely that the increased gain of the quad inverted V array solves the low band insensitivity of the QDFA which was discovered at Kongsfjord.

The QDFA pattern is given at right for comparison to the quad inverted V pattern.

