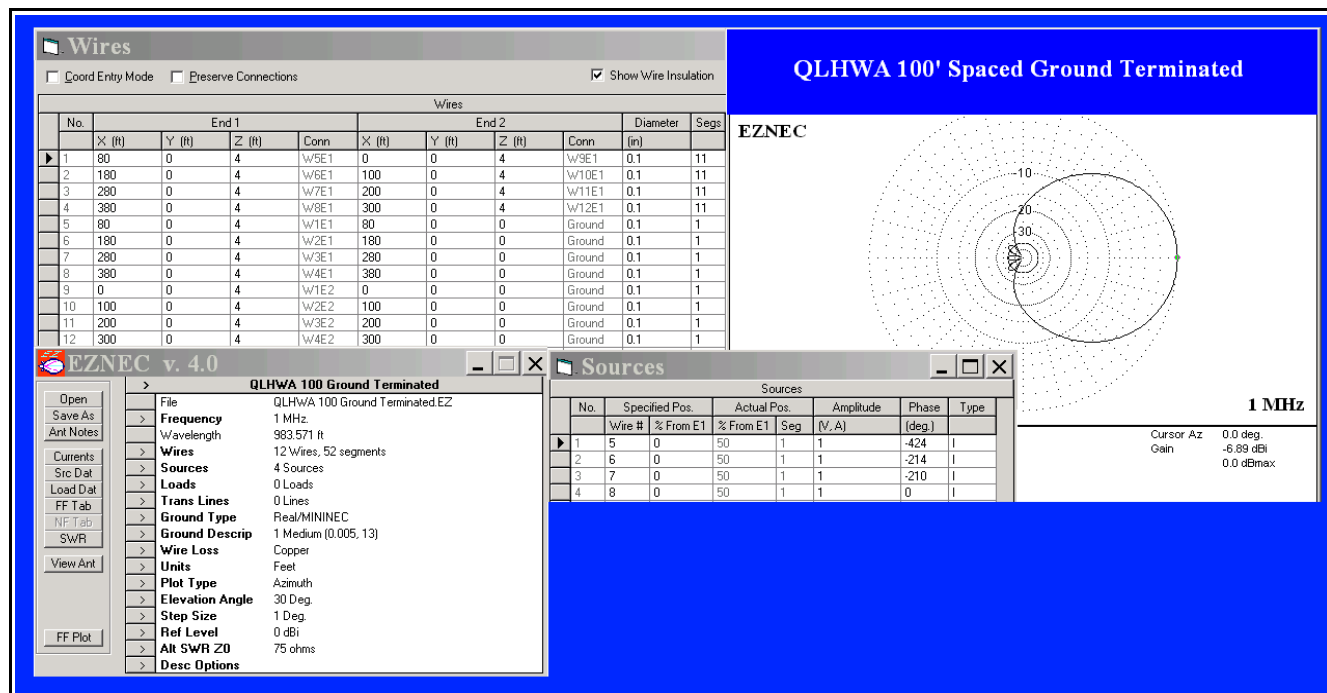


# Quad Linear Horizontal Wire Arrays

Dallas Lankford, 8/9/2011

## A Preview



Why this did not occur to me sooner is a mystery to me.

We don't need loops, or flags, or inverted V's, or beverages. Just 4 linear horizontal wires, each about 80 feet long and about 4 feet above the ground. Total length about 380 feet. If EZNEC is correct, that will give more than enough signal level output for an excellent MW DX antenna array. The pattern is like a QDFA. But there are no terminating resistors, so there is no loss due to resistors, and no limiting thermal noise due to resistors. The QLHWA is like a quad array of short low inverted L antenna elements. A few relatively short metal rods pounded into the ground will suffice for masts. Do we need FET followers at the antenna elements? Or will simple passive step down transformers suffice? I don't know because it has not been implemented.

### Ground Termination

The linear antenna elements must be ground terminated because if not, some of the sources will be negative resistances, implying antenna element mutual impedance problems, namely the phases predicted by the EZNEC simulation above will not produce the pattern above. Without ground terminated antenna elements, the null will be poor or non-existent at some (many?) frequencies in the MW band; in other words, without ground terminated antenna elements, the array will not be a good splatter reducing array from one end of the MW band to the other.