

Aerial Farming at HF

By Malcolm Healey G3TNO

Many HF operators like to try out different homemade wire aerials. This article shows how six years of such trial and error led to a multiband system that not only beats a half-wave dipole for low-angle DX working, but reduces the strength of European stations as well.

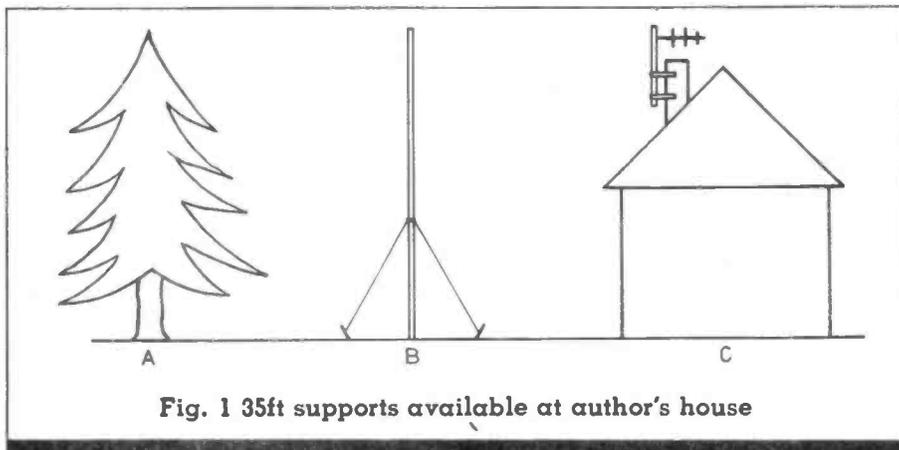


Fig. 1 35ft supports available at author's house

Over a period of years the writer has operated on the HF bands from a number of different locations. It soon became apparent that the most important part of the station lay in the aerial system. It is far better to spend a few hours and a pound or two on getting the radiating system performing well, rather than a few hundred pounds on a big linear amplifier and using a lot of power in trying to counteract the shortcomings of a poor aerial system, not forgetting that with a good aerial you get advantages on receive too!

It is hoped that this article may give you food for thought in making an aerial system which will work well in your QTH. I have found that an aerial system which works well at one site may, due to local effects, perform very differently at another. The differences are in some part due to local effects such as soil conductivity, local screening due to hills,

buildings and even trees.

When carrying out aerial experiments I always put a simple two line entry in the log book, describing the aerial system, including dimensions, height, type of feed and not the least important the earthing system if needed.

When planning new aerial ask yourself a few questions:

- 1) What band(s) do you wish it to work on?
- 2) What space do you have?
- 3) Are there any natural sky hooks (trees, buildings etc.)?
- 4) At what times of day are you able to operate? (It is no use putting a monster beam for say 80 metres firing at the USA or Canada if you can only get on the air at lunch times as band conditions would, in the main, be unsuitable to use such a device).
- 5) Decide what would be socially acceptable at you QTH (your neighbours may well not consider

your latest 6 element 20 metre beam a thing of great beauty), especially in urban locations. Your family may well be put right off your hobby, especially if their once friendly neighbours stop being friendly "Cos her OM has gone mad, trying to compete with the aerial farm at Daventry!"

6) Consider any planning permission you may need before buying any aerials or towers etc. I have always found my local planning department to be very helpful with any queries. But ask first. We have all seen the adverts of the unwise, "For sale, unused tower and beams unable to get planning permission. Offers (Please!)"

Before putting up any aerials, make a plan of your garden including any natural help such as trees, buildings and don't forget that the TV aerial pole on the roof can be very useful as a support as well. Mark in all dimensions, possible feeder runs etc. In my own case I wished to work on all bands 160-10 metres, and hoped for an aerial that would provide contacts with the majority of stations called.

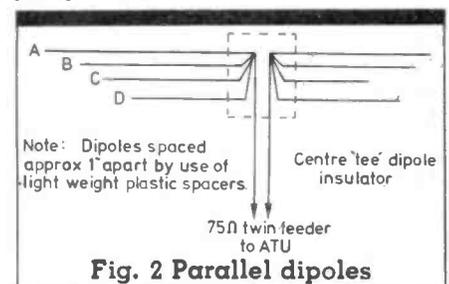


Fig. 2 Parallel dipoles