

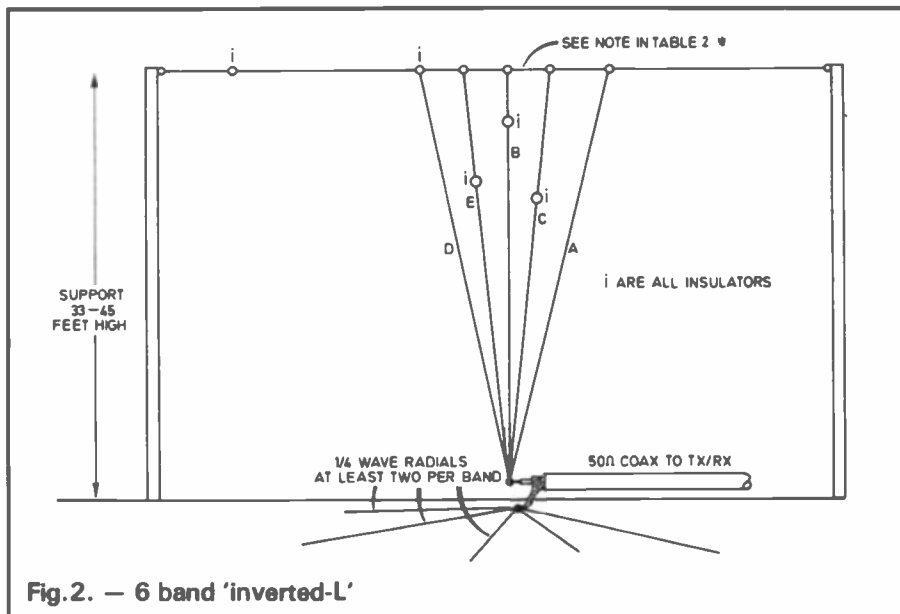
Tee Time

In the amateur press over a period of years there has been mention of high impedance fed vertical aerials. The "Tee" and the "Bobtail Curtain" are just two of these aerials that I have tried. One of the main advantages of this type of aerial is that, as the feed impedance is pretty high, the losses in

the earthing system become much less important in comparison to a conventional ground-plane type. The maximum current point in the aerial is elevated above ground level. This can assist in lowering the angle of radiation.

The Bobtail Curtain

The basic 'Bobtail Curtain', is like the Tee, a high impedance fed array. It differs, however, in that it has some directivity and is in fact a broadside array (that is to say that it is directive



The "Tee" consists of a quarter-wave vertical section connected to the centre of a flat-topped half wave section. The major part of the radiation is from just below the junction of the horizontal and vertical parts of the array, and that is the point of maximum current too. As already mentioned, the feed impedance is rather high, so some means of matching the aerial to the co-ax is needed. I used a parallel-tuned ATU coupled by a link winding to the co-ax feeder: Fig.3 shows the arrangement. The actual dimensions of the aerial are not terribly critical, and a few inches either way seems to make little or no difference to its performance.

I constructed two separate Tee verticals, one for 21MHz and the second for 14MHz. The results I obtained were very satisfactory. One notable point was that, compared to a dipole at 45 feet high or a conventional quarter wave ground plane, under marginal conditions (particularly as a path was opening or closing) the Tee seemed to be able to make contact for rather longer periods.

The Tee appeared to have an omni-directional pattern, much like a conventional ground plane antenna. Weak signals off the ends of the dipole and apparently unworkable, were often at good strength and workable on the Tee.

broadside on to the direction the antenna runs in; for example, if a broadside array is running from north to south it will fire mainly in an easterly/westerly direction).

It consists of three quarter-wave vertical elements, the upper ends of the vertical elements being joined to a horizontal wavelength long phasing section. Three elements are equi-spaced along the length of the phasing section and the array is fed at high impedance from the lower end of the centre vertical section (see Fig.4).

Due to space restrictions, I made up a Bobtail curtain for 28MHz only (for 28MHz, the antenna will occupy a span of sixty six feet!). In its preferred directions, the Bobtail well outperformed the reference dipole, sometimes by as much as 2-3 'S' points. The feedpoint of my Bobtail was about

