

Fig. 14 Open wire feeders can easily be run through the roof space.

wire feeders into the house is to bring them through the brickwork via an airbrick, which can easily be fitted if not already present. Once inside the roofspace the feeders can be suspended from the truss-beams and then brought down through the plasterboard ceiling as detailed in Fig. 14.

### Verticals

Surprising as it may seem, I have never really made much use of vertical aerials since the garden layouts were never conducive to getting down really good radial mats. As verticals have a lower angle of radiation than horizontal dipoles, they are a very popular

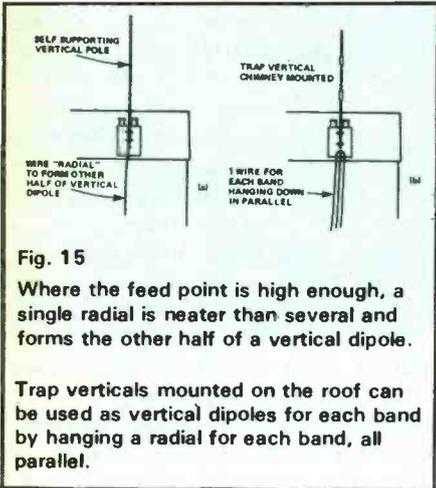


Fig. 15 Where the feed point is high enough, a single radial is neater than several and forms the other half of a vertical dipole.

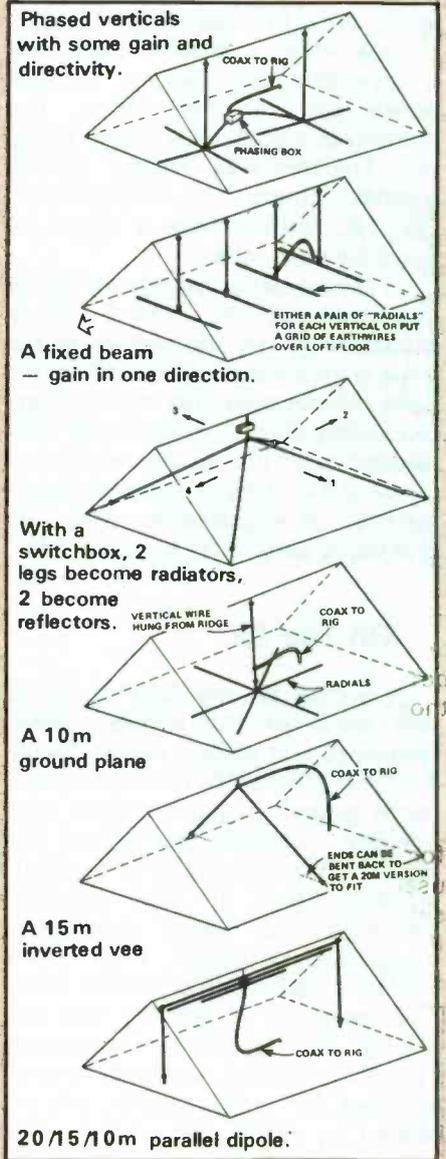
Trap verticals mounted on the roof can be used as vertical dipoles for each band by hanging a radial for each band, all parallel.

choice for a simple but effective DX aerial — particularly at the higher frequencies where full sized quarter waves or more become a practical consideration. Vertical dipoles seem to be used only very rarely, and yet would seem to be a far neater arrangement where the feedpoint is elevated sufficiently.

If ground mounted verticals are used, then it is essential to have a very good earth otherwise the results will be disappointing even though the VSWR will look impressive (Fig. 16). For the lower

### Indoor Aerials

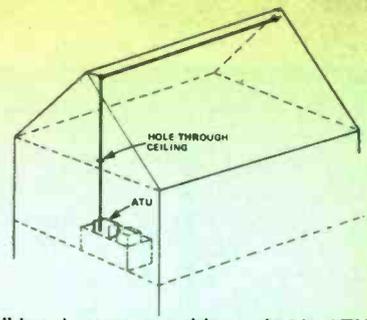
All of the aerials so far described have been used by me in a garden only 12 metres long, far shorter than any I have ever seen mentioned in other aerial articles. Whilst that will possibly give renewed hope to many, there will inevitably be some poor soul who cannot put up outside aerials at all. In such cases, the roof space is the next best thing. Although the radiated signal will be slightly down



20/15/10m parallel dipole.

on an outdoor aerial at similar height, worthwhile results can still be obtained given a little thought.

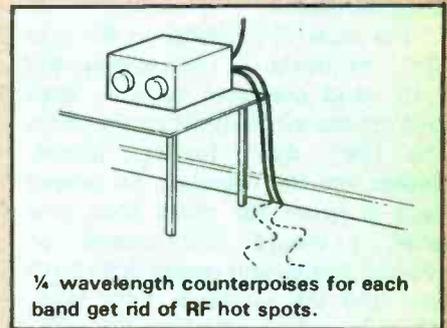
In most attics, a 10m ground plane will be quite practical, even if the top has to be bent over a little. Or how about a 15m inverted vee? There is no reason why the ends cannot be bent back of course, and a 20m version then becomes possible without loading coils. A pair of



All band coverage with a suitable ATU and an inverted 'L'.

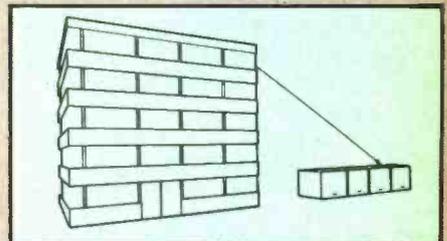
phased verticals can give a fixed vertical beam, assuming the alignment of the house is suitable — although arrays with all elements driven rather than parasitic elements are said to work better indoors. For those who simply have to spray RF in all directions, how about the pyramid beam with four switchable directions.

Lower frequencies tend to be more of a problem for those using roof space antennas. A full sized inverted L aerial should be possible for at least 40m and with a suitable



ATU can be used on a number of bands. With end fed aerials there is always the possibility of RF hot spots appearing on the rig. These can be cured by adding a quarter wave counterpoise for each band.

For a temporary QTH the mobile whip could even be pressed into use as a loft aerial or mounted on the balcony rail in a block of flats. Where no balcony exists, a



whip aerial can be fixed to the window frame and I have even worked one chap who uses a thin gauge wire hung down from his flat window as an "invisible" aerial with the lower end fixed to a block of garages. Providing the lower end is above arms reach nobody will ever notice it, but it can radiate quite an effective signal.