

but almost any antenna can be used. This mode is really a ground wave phenomenon, with the really strong link between the two stations, with no refraction or reflection involved.

### Meteor scatter

Meteor scatter propagation is normally associated with 2 metre work, but occurs much more often and more intensely on 28MHz, with a single small meteor capable of ionising an area 50 feet in diameter and over a mile long in the E layer. Signal strength increases of up to 40dB are possible.

A single meteor trail is very short lived (giving rise the 'pings' of signal) but if the earth encounters a shower of these objects, then almost continuous propagation is possible at 28MHz. Being primarily a single hop phenomenon, the communications range is limited to about 1300 miles, as for other E-layer reflections.

### Aerials for Ten

While we would all like a rotatable beam for 10 metres, the local council and the neighbours may

have other ideas. If you do want to try a beam, but don't fancy a full size version, there are some small beams available. The writer uses an *HQ-1 Minibeam* (not the same as the G4MH type) and can recommend this. It isn't so clever on 20 metres (it covers 20, 15, 10 & 6 metres) but does possess very good directivity and gain on 10 in a reasonably small space.

Simpler aerials can be used to good effect, and there are a large number of designs to be found. One of the simplest is the humble dipole, which even the smallest house should be able to accommodate. Used in inverted-Vee fashion, it provides reasonably omnidirectional coverage with a fairly low angle of radiation for those distant contacts, even with the apex only 0.2 wavelengths above ground if you are really restricted for height. A possible unobtrusive mounting point is over the roof of the house, using the chimney as the mounting and feed point. Most lofts will accommodate a dipole should you be forced to keep it out of sight.

The equally humble 1/4 wave ground plane works well on 10, and it is relatively easy to give it a good

earth to work against — remember that the feed impedance of a true ground plane with 90 degree radials is 35 ohms, so there will be a mismatch is using 50 ohms cable. This is unlikely to have any serious effect, but if it makes you happier, the impedance can be raised by dropping the radials somewhat. If mounted in the clear, the angle of radiation will be low, and as well as DX, it can be used for local working providing the other station is also vertically polarised. The provision of a good earth system (as the other half of the antenna) also applies to any vertical systems such as the trapped multiband types.

### Summary

10 metres if a band full of surprises and capable of supporting many forms of propagation, despite the poorer conditions now looming up. Even with low power, plus a bit of knowledge and some patience, DX will still be there for the taking, so don't neglect it. Also, the band is used for satellite downlinks — yet another area of interest for many people.

# MET

## ANTENNAS



### YAGIS to NBS

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