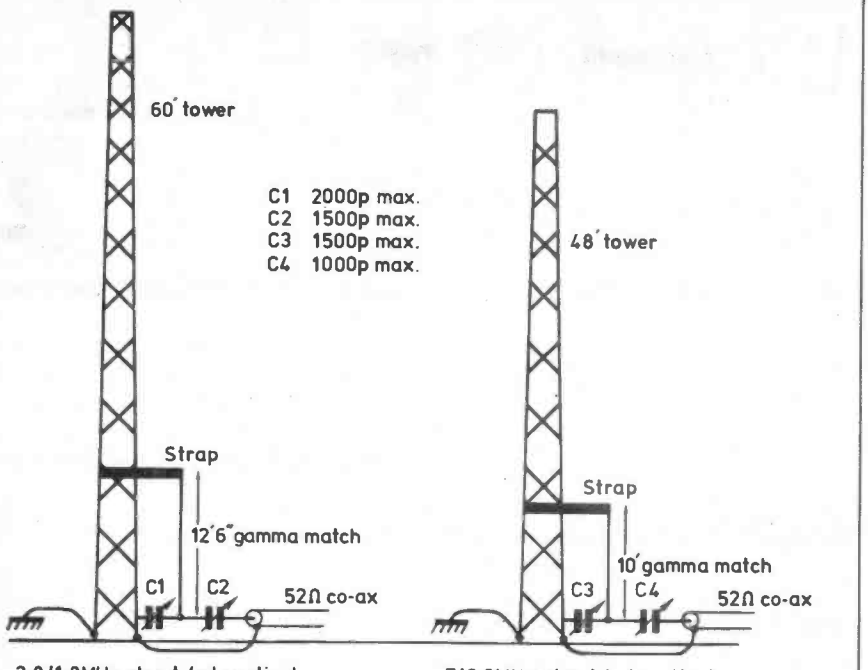

Fig. 5. Dual band shunt fed verticals

the centre of one vertical section works well but requires two supports. The vertical members should preferably be mot less than 8-9m long but the lower horizontal section should be out of reach because of the high RF voltage at the centre. The author invariably uses 75Ω balanced twin lead which should run horizontally from the vertical section for as far as practicable so as to minimise radiation coupling with the vertical wire to which it is connected. This is illustrated in **Fig 8.**

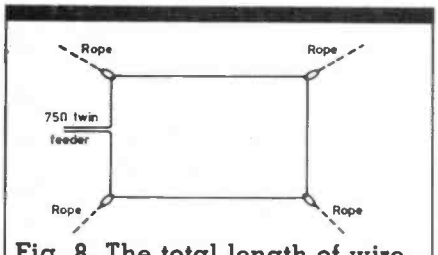

Fig. 8. The total length of wire for a 7MHz fullwave loop is 43m

Full wave vertically polarised Quad loop. Directivity is at right angles to the plane of the wire but is not very pronounced.

A variant of the full wave Quad loop is the Delta loop which again is a full wavelength of wire, this time arranged in triangular format. Many prominent DXers have found this to be an excellent aerial. If only one support is available it is mounted in the normal fashion with the apex at the top as illustrated in **Fig. 9.**

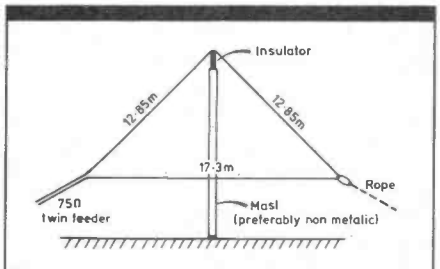

Fig. 9. Delta loop

It is generally desirable to use a non-conducting mast for vertically polarised aerials (except for the slopers discussed earlier). Fortunately a 7MHz Delta loop does not require an excessive pole height.

Many amateurs may possess two fairly widely spaced masts in which case a Delta loop may be strung between them and allowed to hang upsidedown with the 'apex' at the bottom as shown in **Fig. 10.**

The author has tried both varieties and finds only a marginal difference in favour of the inverted version.

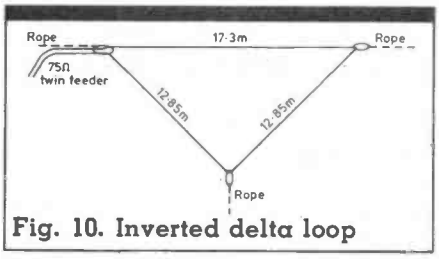

Fig. 10. Inverted delta loop

If a really high mast is available (25m) it may be advantageous to use horizontal polarisation by feeding either at the apex or at the centre of the horizontal base section. The use of a metal mast is perfectly satisfactory in this case because the polarisation is horizontal.

Two Delta loops mounted at right angles from a single mast is another excellent arrangement for worldwide coverage. Again the choice of horizontal v. vertical polarisation is largely dependent on the apex height available. Horizontal polarisation will usually prove superior on the 7MHz band if the apex height is at least 25m.

As shown in **Figs. 9** and **10** the 7MHz Delta loop typically uses some 43m of wire for resonance around 7.08MHz. The length of the horizontal member should be about 17.3m and the two equal sloping sides should each be about 12.85m long. The dimensions are not extremely critical; the main proviso being that the total length of wire employed should achieve full wave resonance at the desired frequency. Varying degrees of coupling with surrounding objects and height above ground will affect the final dimensions and the figures above have been quoted as a guide.

Whilst a Delta loop fed at either one of the two corners (not the apex) will yield mainly vertical polarisation, there is a small horizontally polarised component. This can be avoided by moving the feed point slightly as illustrated in **Fig. 11.**

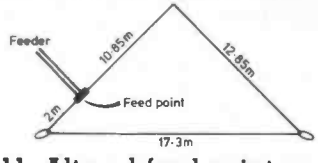

Fig. 11. Altered feed point on delta loop

The writer has found little if any difference in performance and prefers the convenience of corner feeding.

Finally a really effective 7MHz beam can be constructed at very little cost by mounting a 7m horizontal spreader across the top of a mast and supporting a Delta loop from each extremity as illustrated in **Fig. 12.**

Similar remarks regarding horizontal v. vertical polarisation apply to this array also. A steel tower between the two Delta loops will have much less effect if horizontal polarisation is used but vertically