

Balloon & Kite Aerials

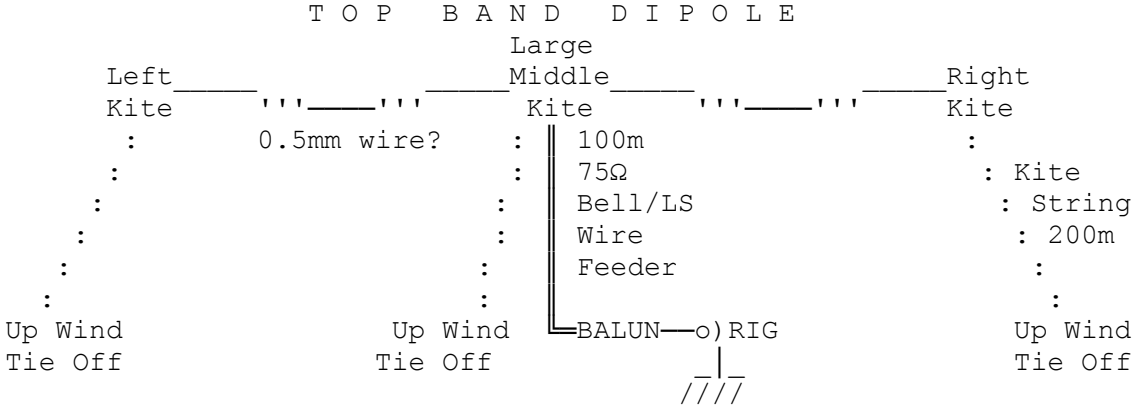
By G8MNY

(Updated Aug 08)

(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

I have not tried this myself but have seen demonstrations at local club /P.

DIPOLLES



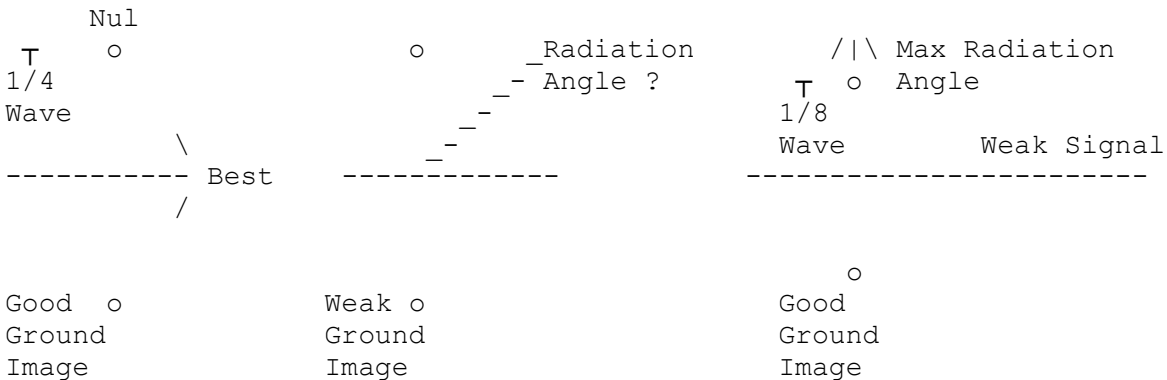
This one is huge & possibly needs Air Traffic notification if over 100m tall!

The Left & Right kites tension the dipole & unless designed for sideways drift, the strings have to take full dipole tension as well as the kite load & have to be outspread from the dipole quite a bit to achieve this! So a large field is needed for the 160m version to give plenty of safe unobstructed flying space. It can also be repositioned once aloft for best dx direction, & will also need repositioning the tie offs if the wind changes.

The centre kite has to be much larger to take half the weight of the dipole plus the heavy balanced feeder.

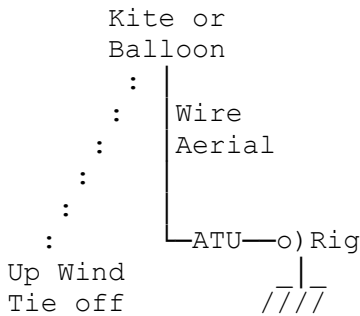
In VERY light winds, Helium Balloons can be substituted for the kites, & possibly several used for the middle load.

EFFECT OF HIGHT



With the ground reflected signal, the aerial height alters the radiation angle giving peaks & nulls at predictable heights depending on ground conductivity & is the easiest parameter to adjust on this aerial.

VERTICAL AERIAL
A simpler Omni Aerial



The wavelength length of wire not only alters the Z seen but also the radiation angle & hence the kind of skywave possible.

1/4 wave is ideal for a low Z aerial if you can get a really good earth (near sea water etc.) & ground plane (3-10 1/4 wave long ground wires laid down).

1/2 wave aerials are OK but the drive Z (>5kΩ) may be a problem for the ATU (Flashovers etc.) so sorter or longer (3/8 or 5/8) may prove an easier length & safer slightly lower Z match. Also with medium Z aerials (600Ω-3kΩ) the earth currents are much reduced, reducing the need for a really good earth or a ground plane. (set of counterpoises)

With tall verticals (1/4 wave or longer) there is no upward radiation & the more local high angle signals disappear, to leave only the weak low angle DX stations.

SERIES L

If the Z is too high for your ATU try a series L. e.g. 34 turns on a toilet roll tapped at 8 & 13, giving 5 L steps of between 1.5 to 2.6 times the minimum inductance by just clipping on the taps wanted.

	TURNS	L	Change
<-----34----->	5	1	0%
(((((((((((((((8	2.6	256%
	13	6.7	264%
8 5 21	21	18	260%
<-13->	26	27	153%
<-----26----->	34	46	174%

SAFETY

Light aircraft are a hazard to flying aerials, although the aircraft minimum height should ALWAYS be greater than 500ft (152m) above ground unless near airports, it is not always so! Above 200ft (60m) you may need Air Traffic Control clearance depending on the location!

Roger G4ROJ (www.kiteaerials.com) wrote to me, that in the UK 200ft (60m) is the highest you can fly kites without special permission & not within 5km of an airport!

Never Fly aerials if there is static around. No earth protects you from, 20,000 AMPS flowing as a arc down your vaporised fuse wire aerial to YOU!

Why Don't U send an interesting bul?

73 de John G8MNY @ GB7CIP