VK5DJ's YAGI CALCULATOR

Yagi design frequency =212.98 MHz
Wavelength =1408 mm
Parasitic elements contacting a square section metal boom 25.00 mm across.
Folded dipole mounted same as directors and reflector
Director/reflector diam =6 mm
Radiator diam =6 mm

ELEMENT LENGTHS AND SPACING
The abbreviation "IT" means "Insert To", it is the construction distance from the element tip to the edge of the boom for through boom mounting

Reflector
699 mm long at boom position = 30 mm (IT = 337.0 mm)

Radiator
Single dipole 664 mm tip to tip at boom posn =312 mm (IT = 319.5 mm)
Folded dipole 689 mm tip to tip at boom posn =312 mm (IT = 332.0 mm)

Dir (no.)	Length (mm)	Spaced (mm)	Boom position (mm)	IT (mm)	Gain (dBd)	Gain (dBi)
1	633	106	417	304.0	5.0	7.2
2	627	253	670	301.0	6.6	8.8
3	621	303	973	298.0	7.9	10.0
4	615	352	1325	295.0	8.9	11.1
5	610	394	1719	292.5	9.8	12.0
6	605	422	2141	290.0	10.6	12.7
7	601	443	2585	288.0	11.2	13.4
8	597	465	3049	286.0	11.8	13.9

Spacings measured centre to centre from previous element
Tolerance for element lengths is +/- 4 mm

Boom position is the mounting point for each element as measured
from the rear of the boom and includes the 30 mm overhang.The total boom length is 3079 mm including two overhangs

The beam's estimated 3dB beamwidth is 41 deg

Here are some construction details for a folded dipole

Measurements are taken from the inside of bends
Folded dipole length measured tip to tip = 689mm
Total rod length =1409mm
Centre of rod=704mm
Distance HI=GF=322mm
Distance HA=GE=350mm
Distance HB=GD=377mm
Distance HC=GC=704mm
Gap at HG=10mm
Bend diameter BI=DF=35mm

If the dipole is considered as a flat plane (see ARRL Antenna Handbook) then its resonant frequency is 206.7MHz and K is 0.951