VK5DJ's YAGI CALCULATOR

Yagi design frequency =572.77 MHz
Wavelength =523 mm
Parasitic elements fastened to a non-metallic or separated from boom
Folded dipole mounted same as directors and reflector
Director/reflector diam =2 mm
Radiator diam =2 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
256 mm long at boom position = 30 mm (IT = 115.5 mm)

Radiator
Single dipole 247 mm tip to tip at boom posn =135 mm (IT = 111.0 mm)
Folded dipole 252 mm tip to tip at boom posn =135 mm (IT = 113.5 mm)

Dir (no.)	Length (mm)	Spaced (mm)	Boom position (mm)	IT (mm)	Gain (dBd)	Gain (dBi)
1	232	39	174	103.5	5.4	7.6
2	230	94	268	102.5	6.9	9.0
3	228	113	381	101.5	8.1	10.2
4	225	131	512	100.0	9.1	11.2
5	224	147	658	99.5	9.9	12.1
6	222	157	815	98.5	10.7	12.8
7	220	165	980	97.5	11.3	13.4
8	219	173	1153	97.0	11.8	14.0
9	217	181	1333	96.0	12.3	14.5
10	216	188	1522	95.5	12.8	14.9

Spacings measured centre to centre from previous element
Tolerance for element lengths is +/- 2 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 1552 mm including two overhangs

The beam's estimated 3dB beamwidth is 36 deg

A half wave 4:1 balun uses 0.75 velocity factor RG-6 (foam PE) and is 196 mm long plus leads

Here are some construction details for a folded dipole

Measurements are taken from the inside of bends
Folded dipole length measured tip to tip = 252mm
Total rod length =534mm
Centre of rod=267mm
Distance HI=GF=104mm
Distance HA=GE=131mm
Distance HB=GD=159mm
Distance HC=GC=267mm
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 less than the flat plane algorithm's range of 10:1