

# Vinecom 6N4 boom 4.236M



## Vinecom 6N4\_4236

**50 MHz & 70 MHz 9 elements double yagi**

**Metal : duralumin**

**Total boomlength = 4.236M**

**Element diameter = 12.7 mm**

**Boom = 32 mm square**

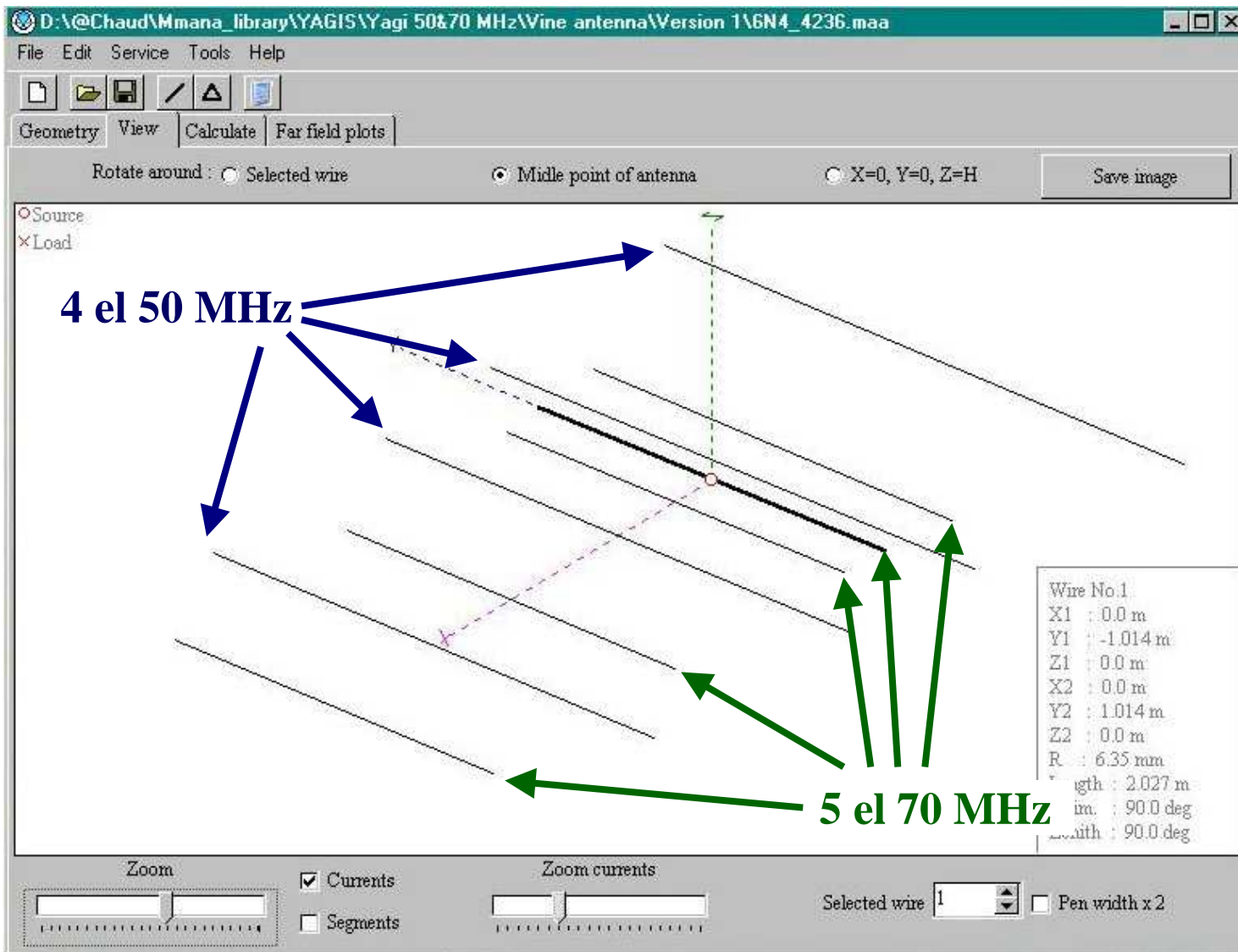
**Total weight = 5.7 Kg**

<b>BAND</b>	<b>Active elts</b>	<b>Gain (dBd)</b>	<b>F/B ratio</b>	<b>min SWR</b>
<b>Four</b>	5	8.5	15.37	1.36
<b>Six</b>	4	7.21	16.01	1.59

No.	F (MHz)	R (Ohm)	jX (Ohm)	SWR 50.0	Gh dBd	Ga dBi	F/B dB	Elev.	Ground	Add H.	Polar.
2	70.2	40.556	10.216	1.36	8.5	10.65	15.37	0.0	Free	---	hori.
1	50.2	38.647	-17.296	1.59	7.21	9.36	16.01	0.0	Free	---	hori.

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## Mmana simulator: antenna aspect



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## Mmana simulator: Vinecom antenna dimensions

50/70 MHz 4/5 el 50 Ohms Vine on boom L=4.26M F5DQK

Parameters View  Change only end points  Change all coordinates proportionally

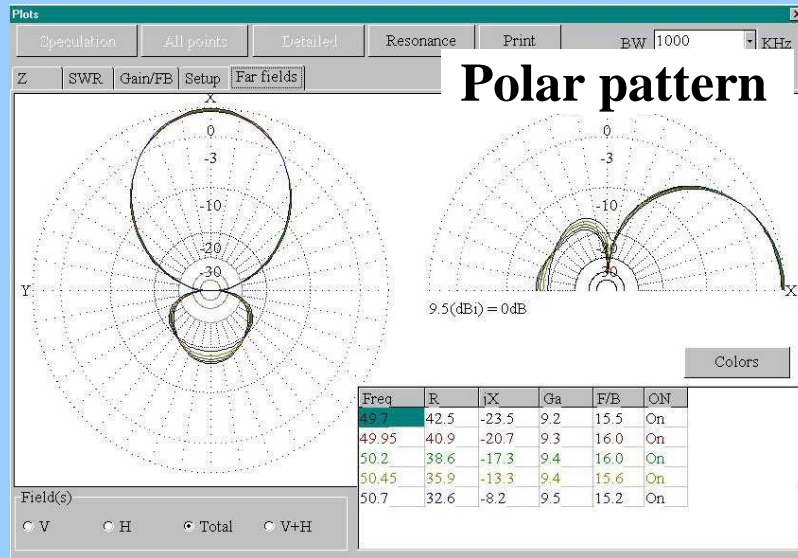
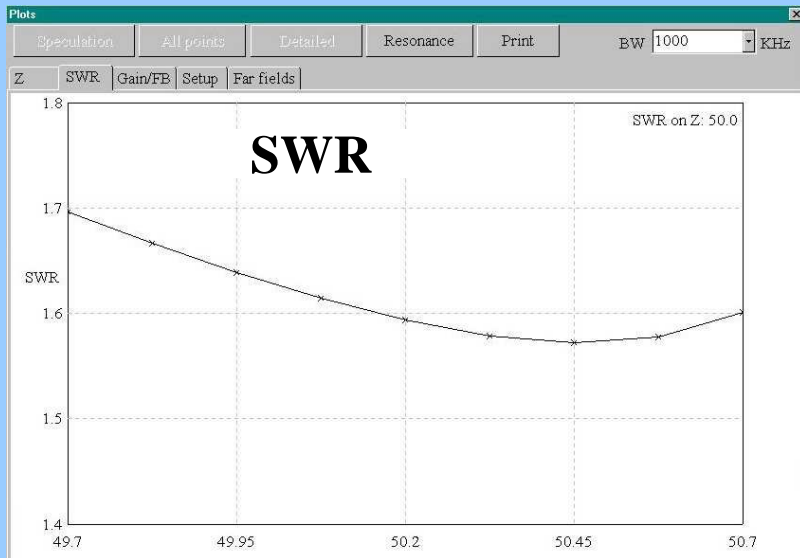
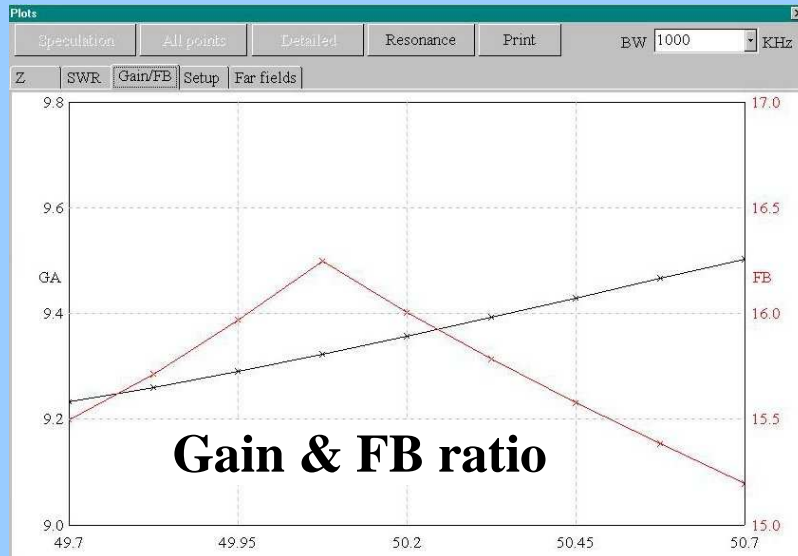
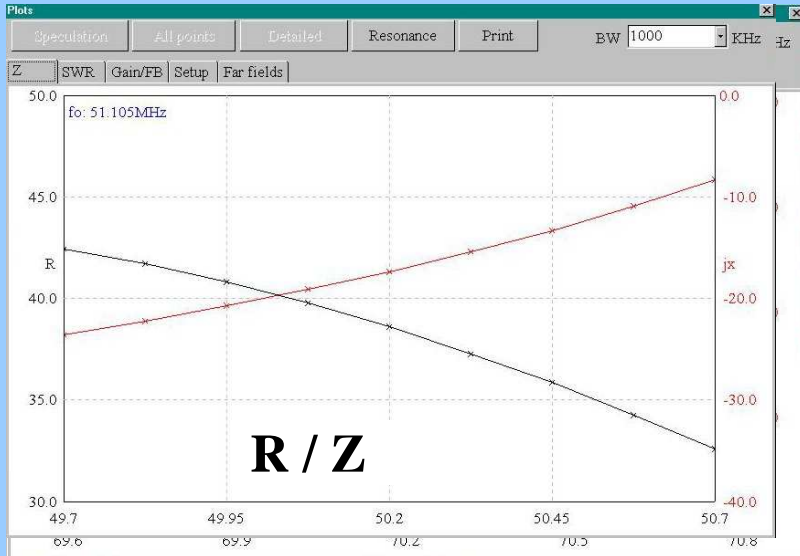
No.	Form	Int.(m)	Width(m)	Height(m)	Length(m)	R(mm)	Seg.	Wires
R6	H line	0.0	3.03	0.0	0.0	6.35	-1	1
R4	H line	1.055	2.099	0.0	0.0	6.35	-1	1
DIP6	H line	1.336	2.829	0.0	0.0	6.35	-1	1
DIP4	H line	1.467	2.027	0.0	0.0	6.35	-1	1
D4a	H line	1.734	1.976	0.0	0.0	6.35	-1	1
D6a	H line	2.123	2.736	0.0	0.0	6.35	-1	1
D4b	H line	2.878	1.923	0.0	0.0	6.35	-1	1
D6b	H line	3.415	2.579	0.0	0.0	6.35	-1	1
D4c	H line	4.115	1.859	0.0	0.0	6.35	-1	1
next								

El position    El width    Diam 12.7

off - distance from first element, on - space between wires     lambda    OK    Cancel

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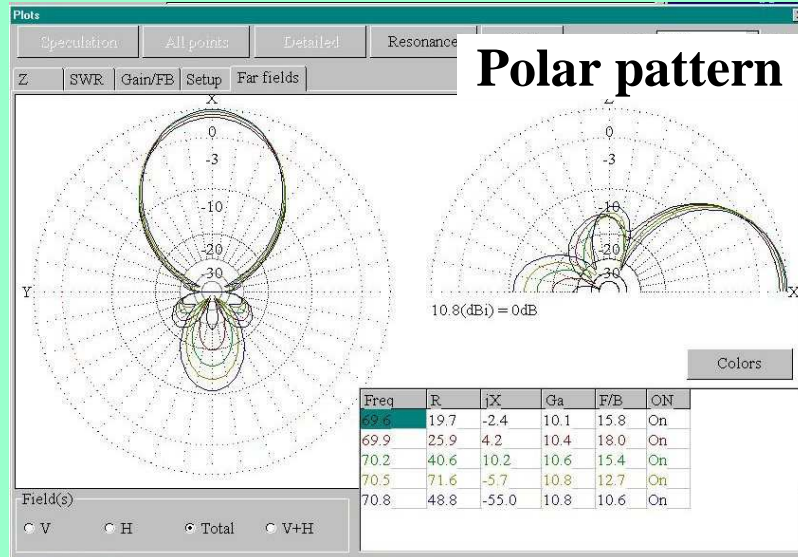
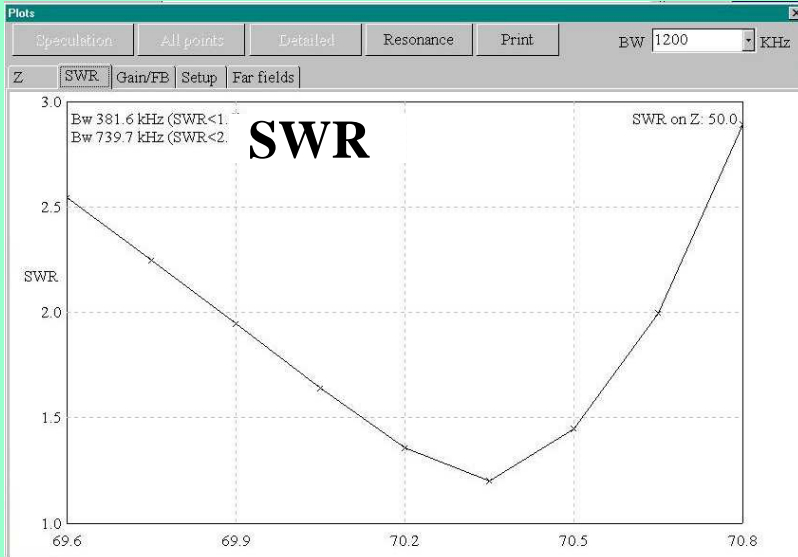
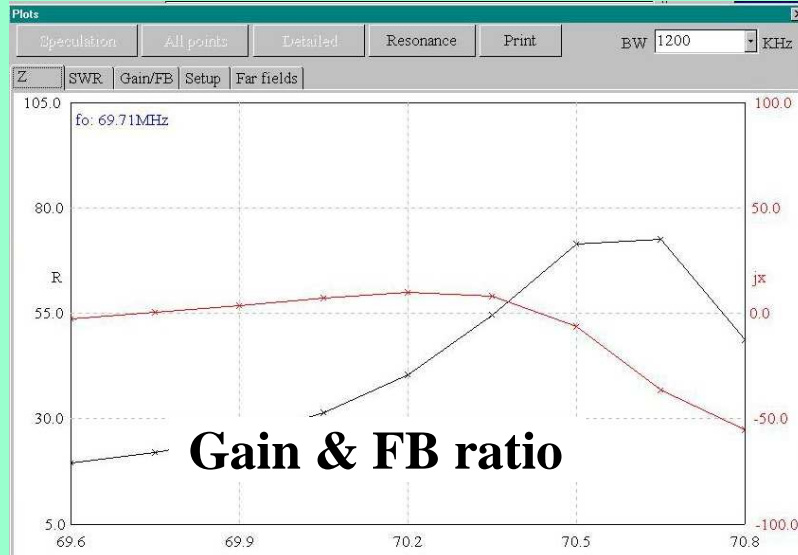
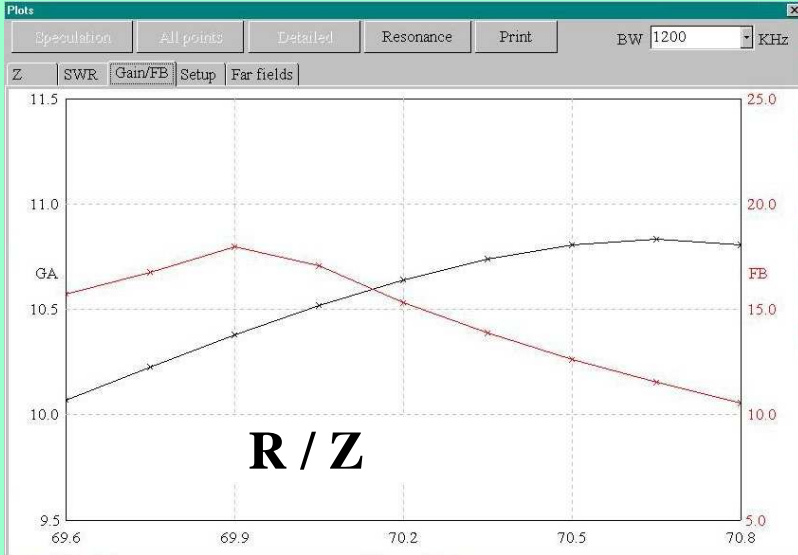
## Measures at 50.2 MHz using Mmana simulator





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## Measures at 70.2 MHz using Mmana simulator



## Vinecom 6N4\_4236

### Gain comparasion with other monoband antennas, versus boomlength

<i>Six meter</i>	Model	Boomlength (M)	Gain (dBd)
Jaybeam	DBM4_4/6	3.0	6.86
Comet monoband	HB9CV 4 el	3.25	7.14
YU7EF 10el	simulation	4.15	7.93
Vine 9 el	6n4_4236	4.236 (electrically 3.415)	7.21

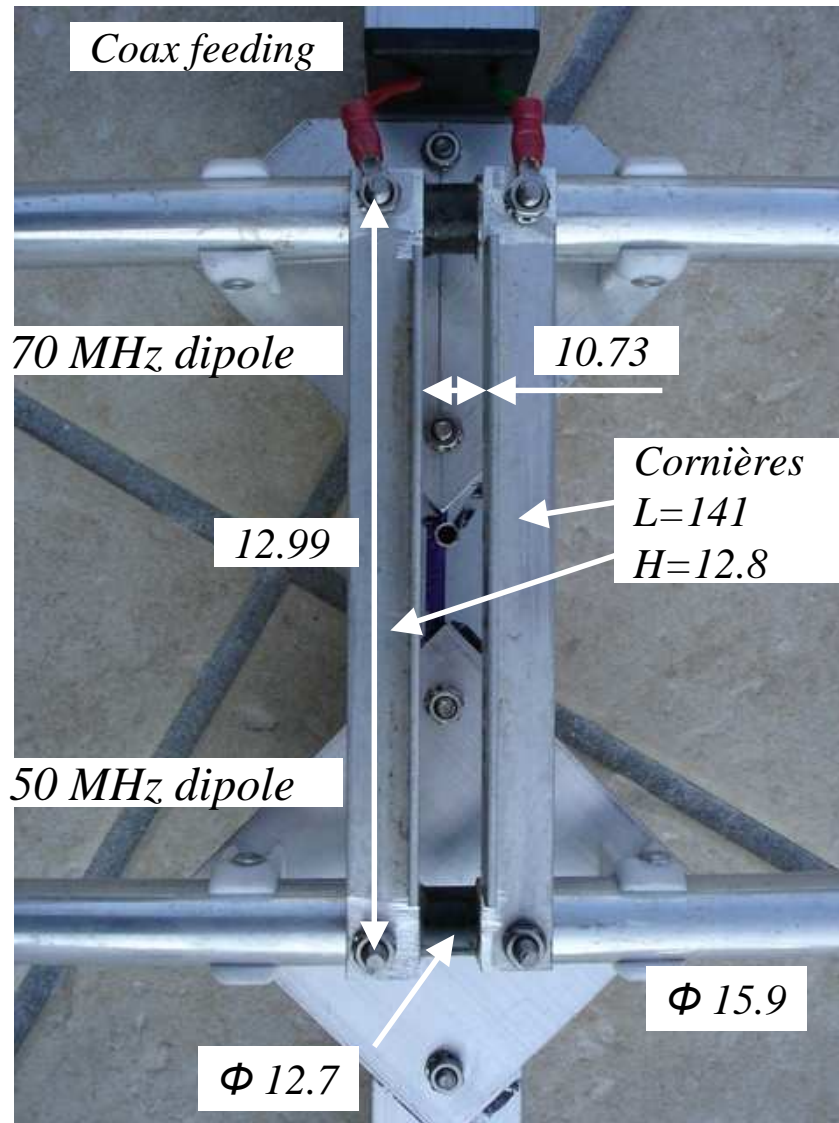
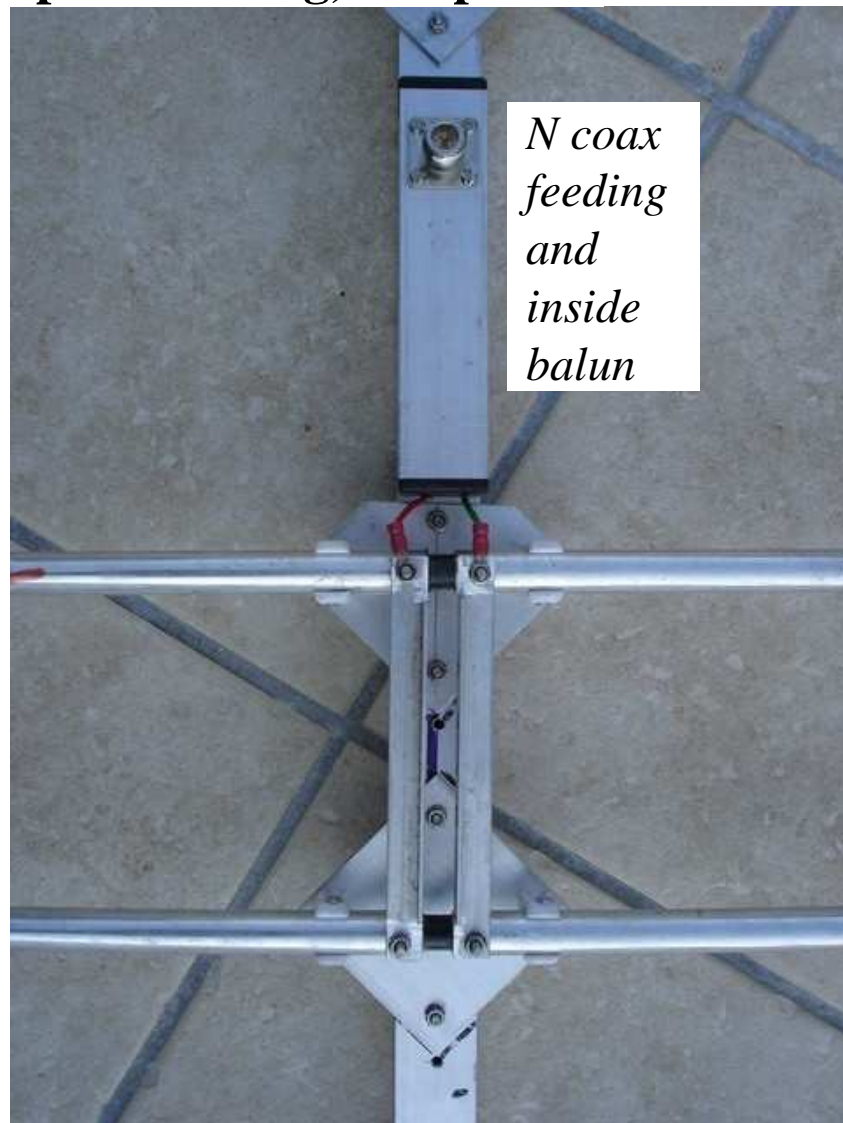
<i>Four meter</i>	Model	Boomlength (M)	Gain (dBd)
Moonracker revued by YU7EF	5 el	2.6	7.86
Jaybeam	DBM4_4/6	3.0	6.27
YU7EF 10el	simulation	4.15 (electrically 3.79)	7.2
Vine 9 el	6n4_4236	4.236	7.21





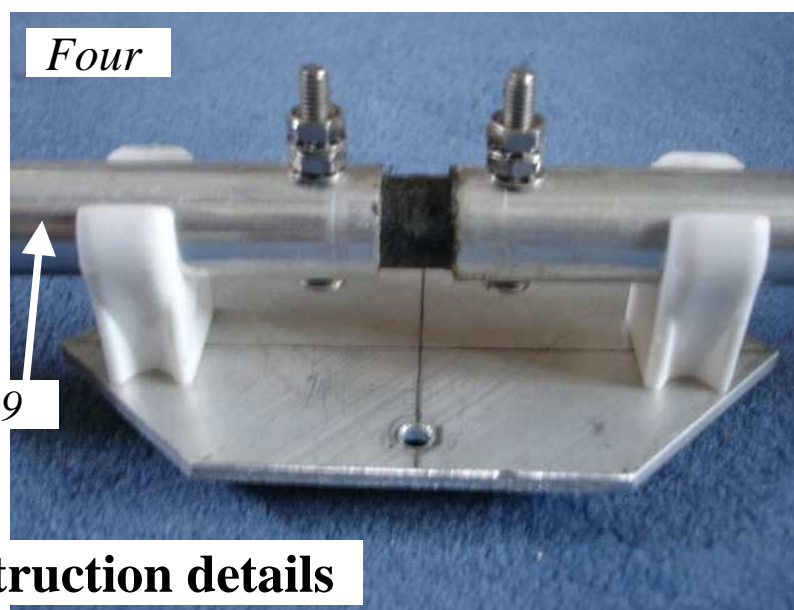
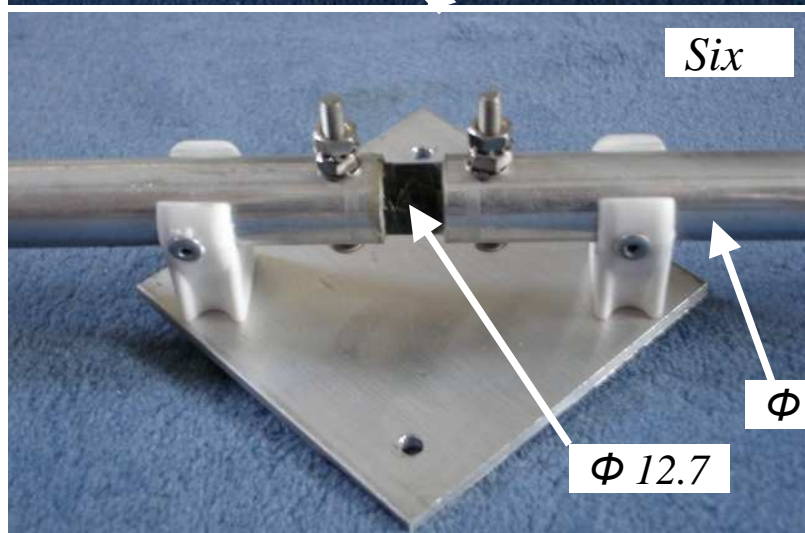
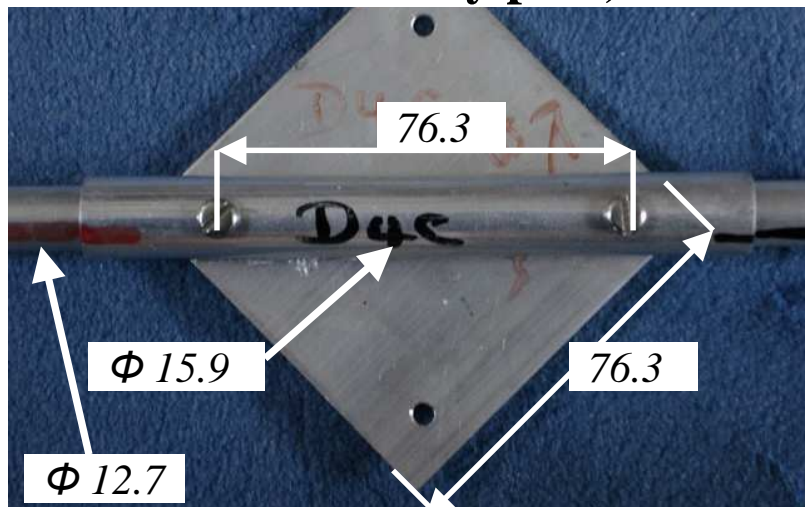
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## Dipoles feeding, N input



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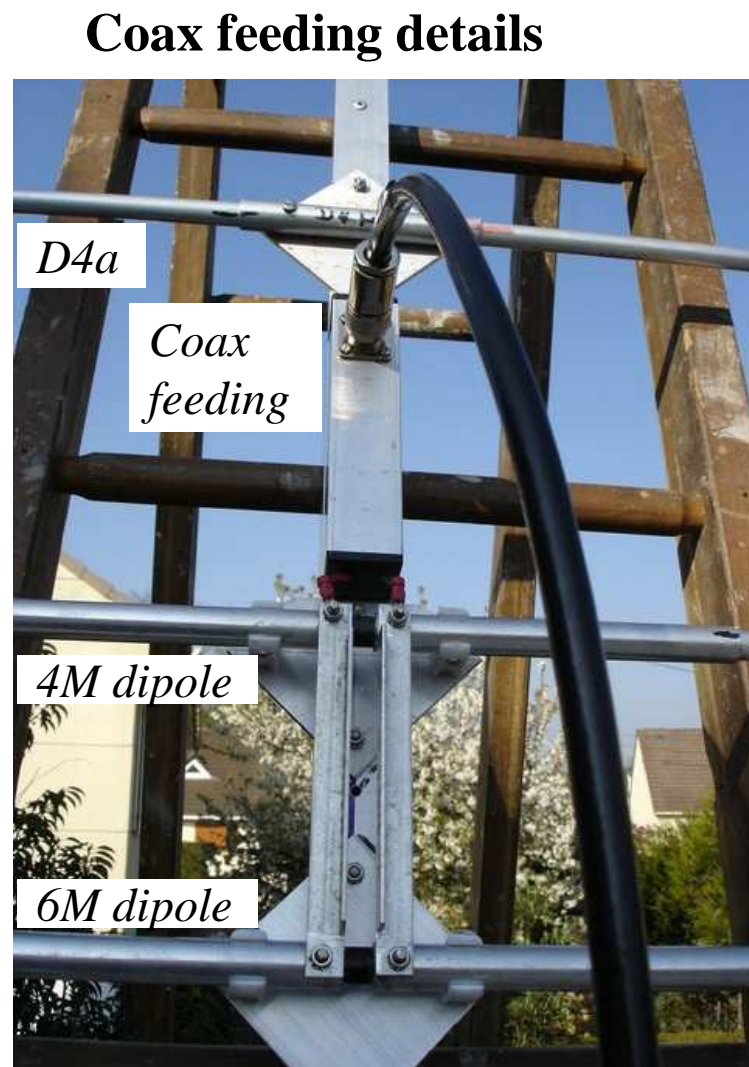
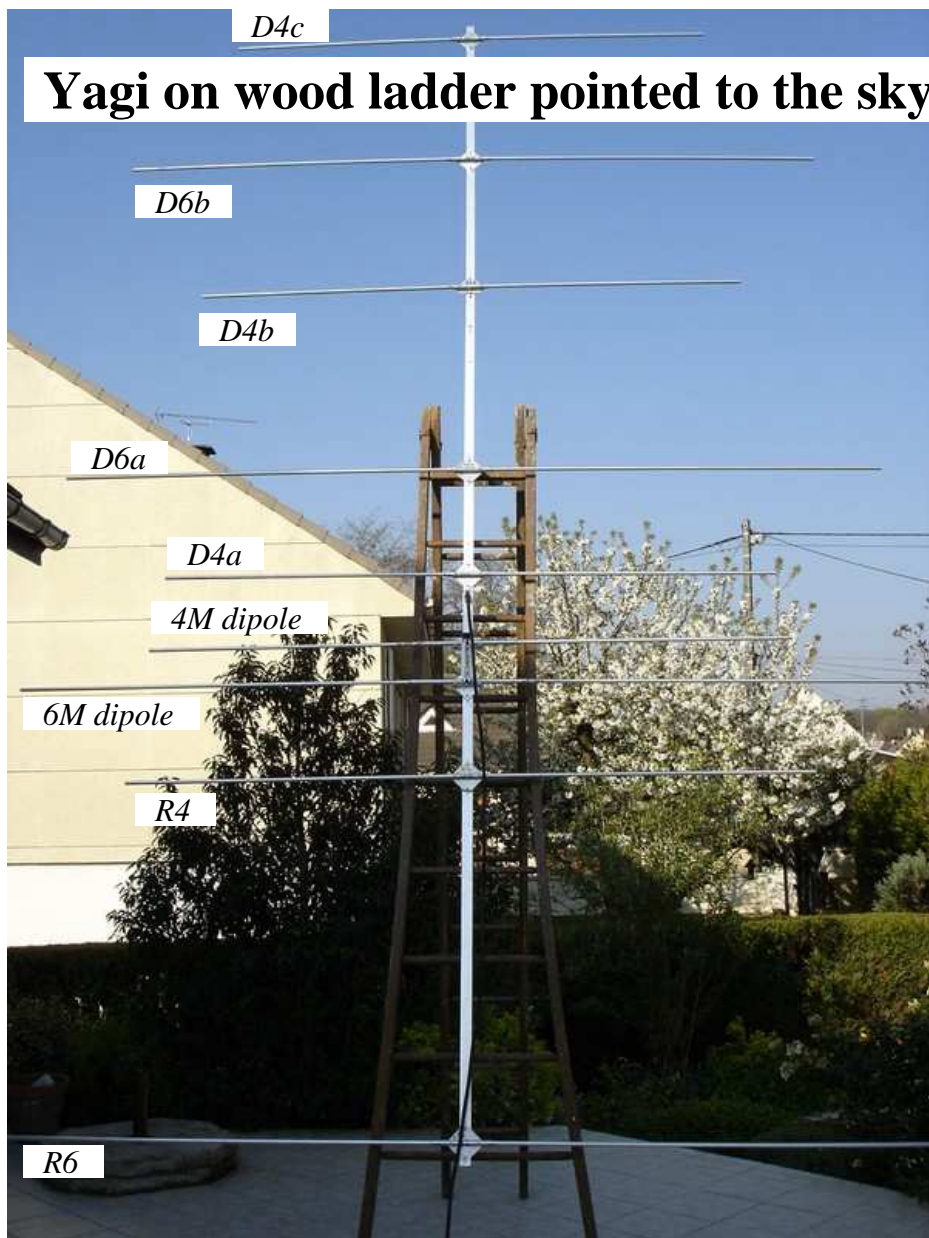
Dural element assembly part, e=3.2



Both dipole construction details



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## Practical meas with MFJ-269 SWR analyser on six meter band

Six meter band	2	1.7	1.5	1.2	Min	1.2	1.5	1.7	2
Just after mounting	47.38	47.96	49.13		49.66/1.45		49.93	50.75	51.07
-20 mm on six dipole	46.93	47.46	48.24		49.27/1.4		50.2	50.73	51.03
-15 mm on D1 six	46.89	47.37	48.08	49.51	SWR 1.2	50.35	50.61	51.09	51.31
<b>-30 mm on D1 six</b>	<b>46.84</b>		<b>47.98</b>	<b>48.79</b>	<b>49.80 / 1.1</b>	<b>50.37</b>	<b>50.98</b>		<b>51.58</b>

Dims mods	initial	readjusted
Dipole six	?	2863
D6a	2736	2702



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## Practical meas with MFJ-269 SWR analyser on four meter band

Four meter band	2	1.7	1.3	1.2	1.1	1.2	1.5	1.7	2
Just after mounting	69.46	69.63	70.0	69.99	70.11	70.25	70.39	70.51	70.64
<b>-30 mm on D1 six</b>	69.47	69.83	69.83	69.99	70.08	70.25	70.4		70.65



## Vinecom 6N4\_4236

Practical meas on both bands, on GEROH mast at 11 meter heighth

	<b>2</b>	<b>1.5</b>	<b>1.2</b>	<b>1.0</b>	<b>1.2</b>	<b>1.5</b>	<b>2</b>
<b>Six meter</b>	45.64	45.92	48.23	<b>48.73</b>	49.12	50.99	51.89
<b>Four meter</b>	69.38	69.85	70.05	<b>70.25</b>	70.43	70.59	70.95

Resonance frequencies are mowing down of about 1 MHz

**Great mast clamp position influence: don't move its actual position !!**



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## Final element dimensions

<b>Elements</b>	<b>Boom spacing (mm)</b>	<b>Real elmt dims (mm)</b>	<b>Simulated elmt dims (mm)</b>
<b>Ref 6</b>	0	3030	3030
<b>Ref 4</b>	1055	2099	2099
<b>Dipole 6</b>	1336	2863	2829
<b>Dipole 4</b>	1467	2027	2027
<b>D4a</b>	1734	1976	1976
<b>D6a</b>	2123	2703	2736
<b>D4b</b>	2878	1924	1923
<b>D6b</b>	3415	2579	2579
<b>D4c</b>	4115	1859	1859

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