



*** Oy Suomen Antenni AB *** Oy Finnish Antenna Ltd *** Oy Finska Antenn AB ***

JP 2000 Tribander Owner Manual



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JP-2000 Technical overview

JP-2000 is effective tribander beam for 20m, 15m and 10meters with full size elements without traps. Antenna is designed using latest computer modelling techniques to achieve best overall performance. All modelling results are carefully tested in normal real life environment.

All hardware solutions are carefully tested and analysed with different methods to provide best mechanical and electrical product quality. For example specially designed element to boom mounting system makes possible to achieve simple but reliable element mounting.

This design provides you following features:

- 10 active fullsize elements: 3 element for 20m, 3 element for 15m and 4 element for 10m.
- No traps
- Direct 50ohm feed (1:1 balun is recommended)
- No power limits (excluding balun)
- All parts are from aluminium or rustproof steel
- Mast clamp fits 80 mm to 45 mm
- Shipping 200*200*2000 carton box
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Boom length:	7.2 m
Wind load:	1.41 sqm
Turning radius:	6.80m
Weight:	27.5kg

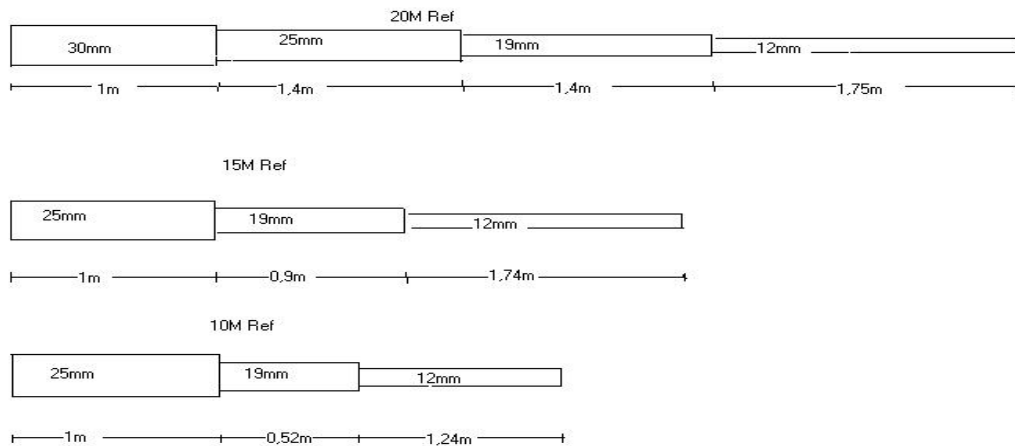
Frequency	Gain	Front/Back ratio
14.000-14.350	7.7dBi	≥22 dB
21.000-21.450	7.7dBi	≥20 dB
28.000-28.700	8.4dBi	≥16 dB



JP-2000 Constructing – Dimensions

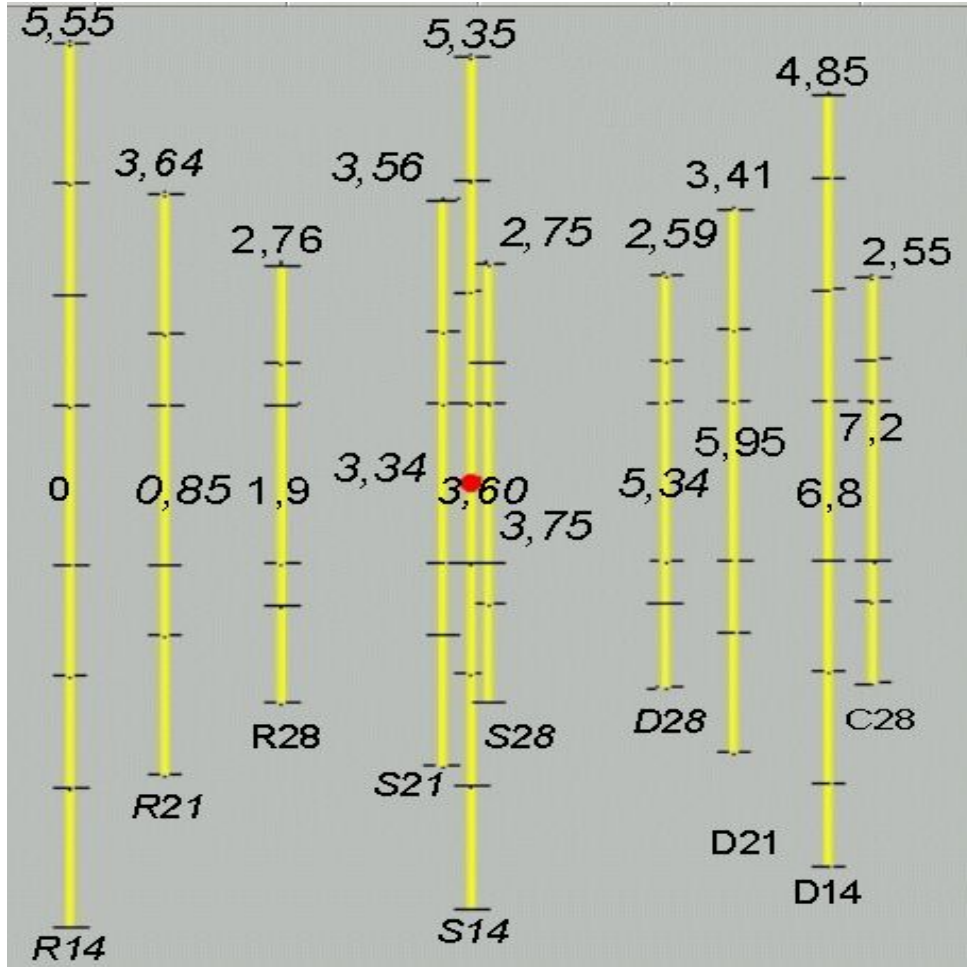
Distance from reflector Meters		Alum. tubing size					1/2 length
		30mm	25mm	19mm	12mm		
0	R14	1	1,4	1,4	1,750	Reflector 20	5,55
0,85	R21		1	0,9	1,740	Reflector 15	3,64
1,90	R28		1	0,52	1,240	Reflector 10	2,76
3,34	S21		1	0,9	1,660	Sleeve 15	3,56
3,60	S14	1	1,4	1,4	1,550	Feed 20	Driven EL 5,35
3,75	S28		1	0,52	1,230	Sleeve 10	2,75
5,34	D28		1	0,52	1,070	Dir 10	2,59
5,95	D21		1	0,9	1,510	Dir 15	3,41
6,80	D14	1	1,4	1,4	1,050	Dir 20	4,85
7,20	C28		1	0,52	1,030	Dir2 10	2,55

Connect feedline to 20m Driven element. 1:1 Current balun will be needed (see details later). Please remember also to use some (70cm) rope inside all 12mm tubes.





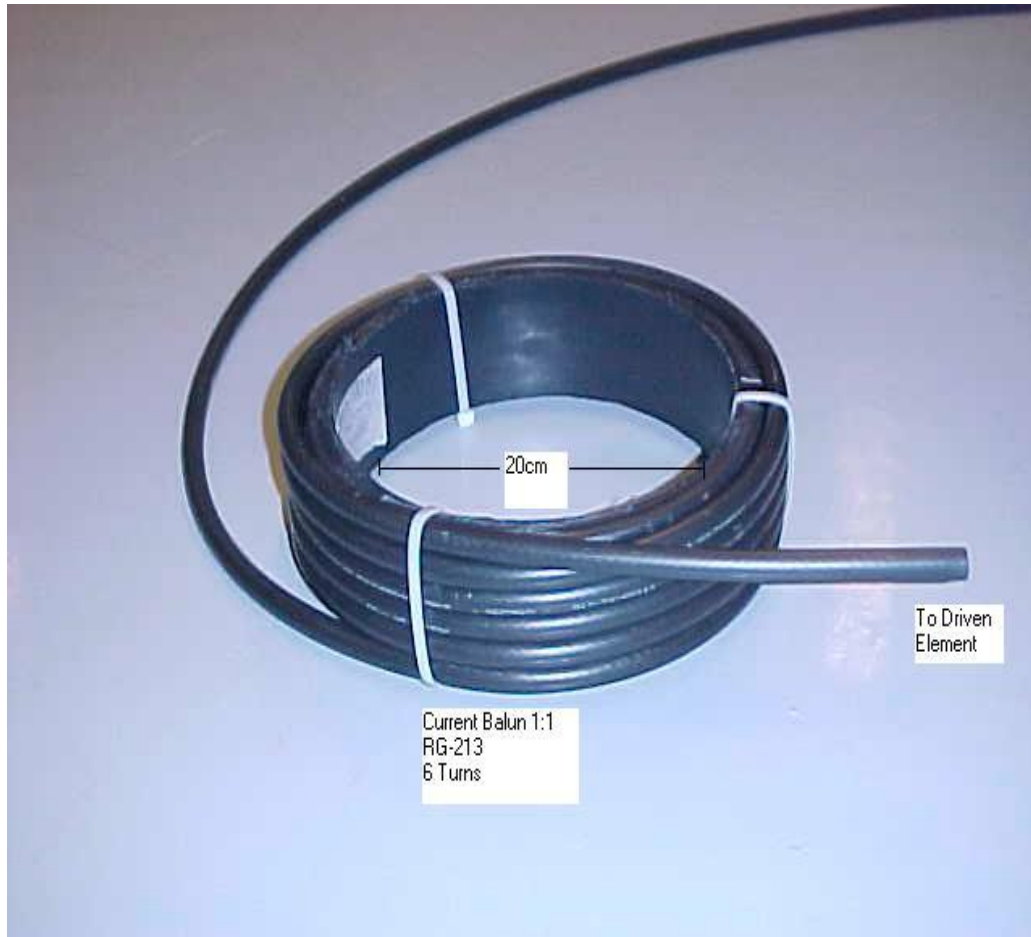
JP-2000 Constructing – Antenna





JP-2000 Constructing – Balun

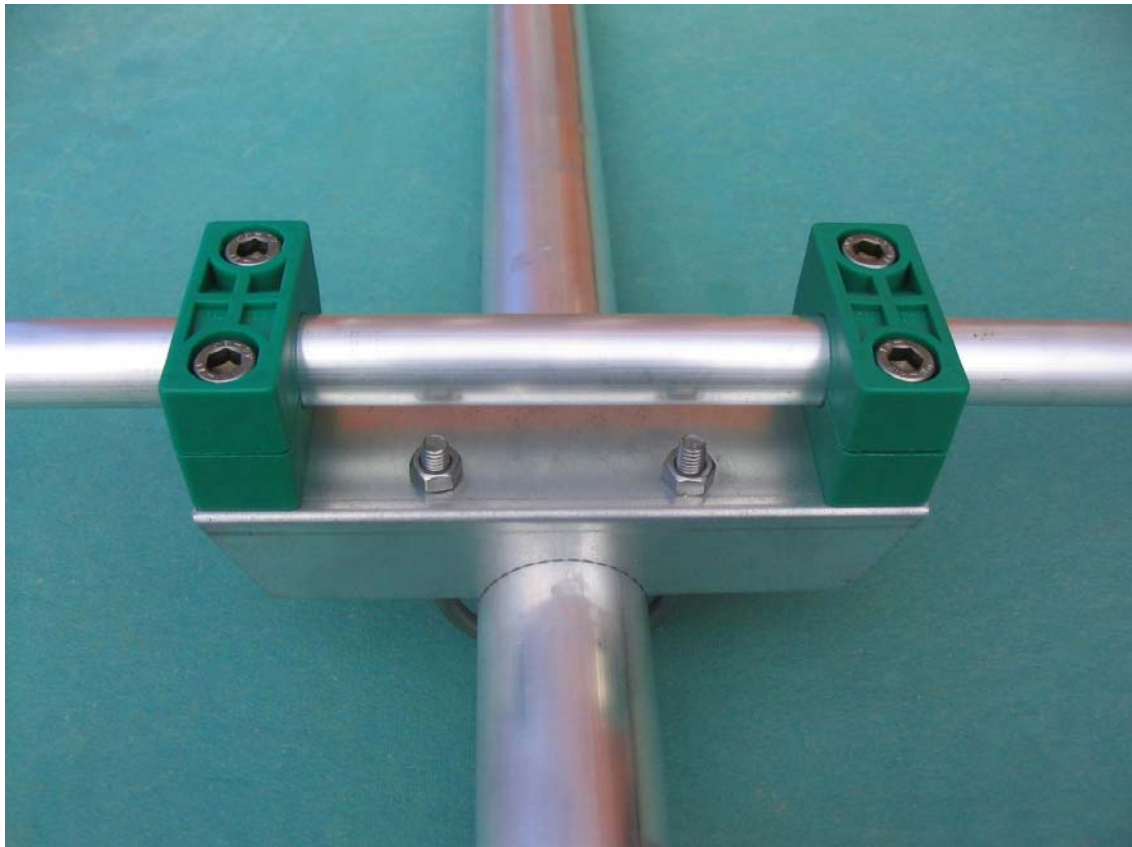
For 1:1 Balun you will need some coaxial. Any 50ohm coaxial will do the job! When constructing the balun take care that diameter of balun is about 20 cm. Try to keep the coaxial leads as short as possible when connecting coaxial to feed element. This balun can also be replaced with the JP Current Choke-H product.





JP-2000 Constructing – Driven element

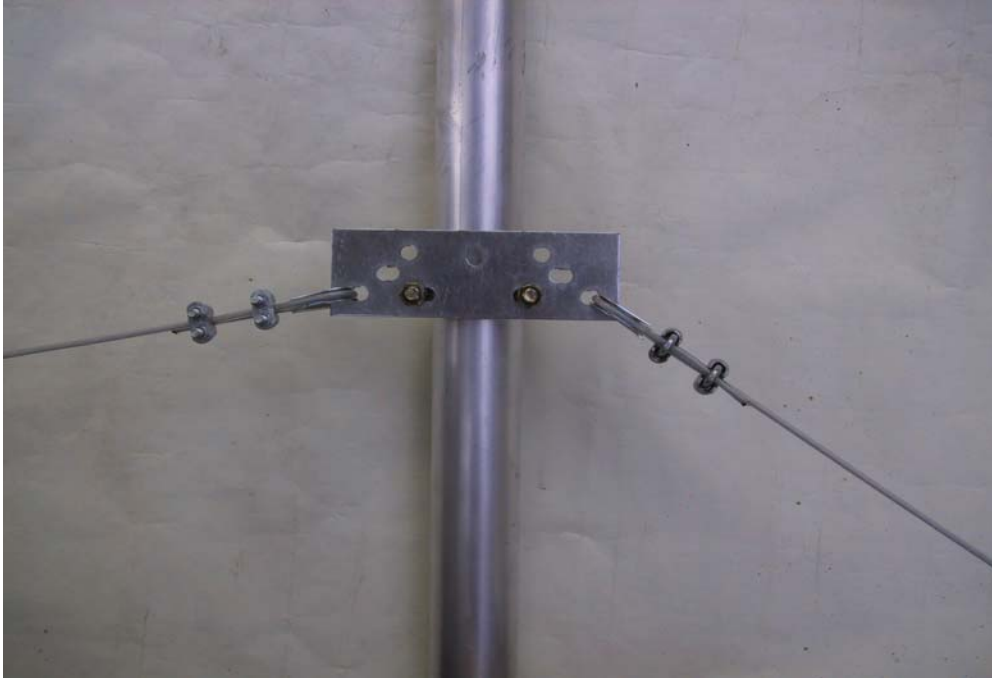
Attach only outermost insulators when mounting 10/15m driven elements.
For boom mounting use shorter u-clamps.





JP-2000 Constructing – Trust bracket for mast

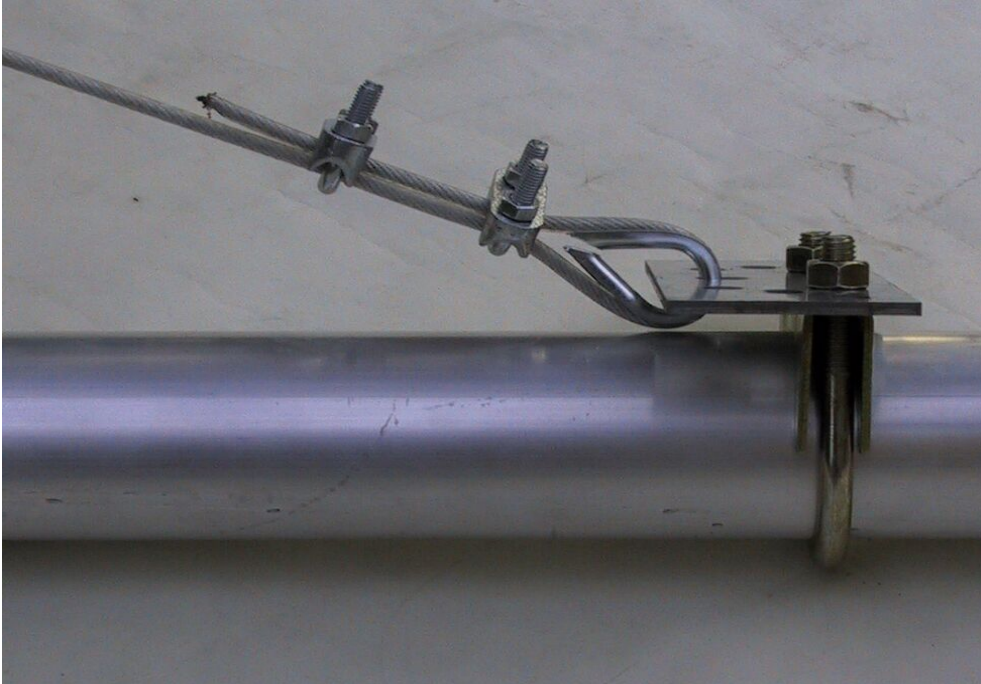
Bracket will fit to 50, 60 and 80mm masts.





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JP-2000 Constructing – Trust bracket to boom





JP-2000 Constructing – Element clamp

Element clamps are meant for:

Ref 20m, 15m, 10m

Dir 20m, 15m, and both 10m directors

Please note that there are two size for clamp washers. 20m reflector and 20m director has 30mm clamp washer and for others 25mm





JP-2000 Constructing – Worm clamps

Packet contains following worm clamps:

Worm clamp 19mm to 12mm tube

Worm clamp 25mm to 19mm tube

Worm clamp 30mm to 25mm tube

Please note that correct positioning of the clamp is very important. Otherwise it will not tighten enough. Be careful when tighten worm clamps (4,5Nm max)





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Spacer

Please use spacer to improve the stability of 10 and 15M in heavy wind conds



JP-2000 Packing list: Elements

Band	Diam (mm)	Length (m)	pcs
20m ref dir	30mm	2m	2pcs
20m driven	30mm	1m	2pcs
20m	25mm	1,5m	6pcs
20m	19mm	1,5m	6pcs
20m ref	12mm	1,85m	2pcs
20m driven	12mm	1,65m	2pcs
20m dir	12mm	1,15m	2pcs
15m	25mm	2m	3pcs
15m	19mm	1m	6pcs
15m ref	12mm	1,84m	2pcs
15m sleeve	12mm	1,76m	2pcs
15m dir	12mm	1,61m	2pcs
10m	25mm	2m	4pcs
10m	19mm	0,6m	8pcs
10m ref	12mm	1,34m	2pcs
10m driven	12mm	1,33m	2pcs
10m dir1	12mm	1,17m	2pcs
10m dir2	12mm	1,13m	2pcs



JP-2000 Packing list: Other parts

Parts	pcs
el clamp 50mm	2
el clamp 60mm	5
60mm driven el clamp 20M	1
60mm driven el clamp 15/10M	2
30mm driven el insulator 20M	8
25mm sleeve el insulator 15/10M	8
M10*50mm machine srew driven el	12
M10 lock nuts driven el	12
el hook standard	7
el hook long driven el 20m	2
el hook short sleeve el 15m/10m	4
30mm clamp washer 20M elements	2
25mm clamp washer 15/10M elements	5
M8 lock nuts	26
M8 washer	26
boom 60mm x 6m	1
boom 50mm x 1,5m	1
boom plate	1
boom clamp 60mm	4
mast clamp 52mm	4
trust clamp 60mm	1
trust clamp 52mm	2
boom trust bracket	3
boom trust wire	2
cable clamp	4
thimble for trust wire	4
M6*70mm bolt(boom)	2
M6 washer(boom)	2
M6 lock nut(boom)	2
M4*15mm machine srew drive el 20m	2
M4 washer	4
M4 lock nut	2
M4 nut	2
19-28 worm clamp	26
12-19 worm clamp(own)	20
plastic cap (black)	20
apiko connector	2
spacer	2