



**IØJXX** di Donzello Rosanna

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## 25JXX70 Yagi

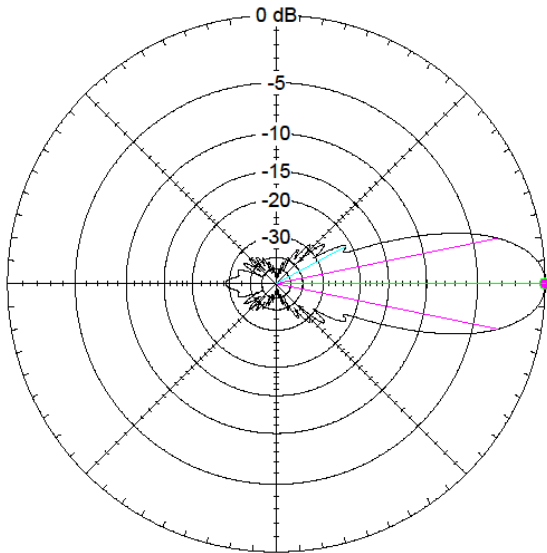
Item		Q.ty	Item		Q.ty
Stainless steel nut M5		4	Stainless steel bolt M5x35		1
Stainless steel nut M6		10	Stainless steel bolt M5x40		2
Nylon nut M8		24	U_Bolt 35		2
Lock washer 5 mm Ø		5	U_Bolt JXX		3
Lock washer 6 mm Ø		10	Stainless steel Eyescrew M5		2
Flat washer 6 mm Ø		10	Stainless steel Turnbuckle		2
Horizontal element <b>1÷25</b>		24	Dipole with T-match		1
Section boom <b>A</b> 25 mm Ø	100 cm.	1	Ergal Plate <b>PIA35JXX</b>		1
Section boom <b>A - B</b> 30 mm Ø	120 cm.	1	Dacron rope front	230 cm.	1
Section boom <b>B - C</b> 35 mm Ø	120 cm.	1	Dacron rope back	160 cm.	1
Section boom <b>C - D</b> 30 mm Ø	120 cm.	1	Inbuss key 2.5 mm.		1
Section boom <b>D</b> 25 mm Ø	120 cm.	1			

Total Field

EZNEC+

Total Field

EZNEC+



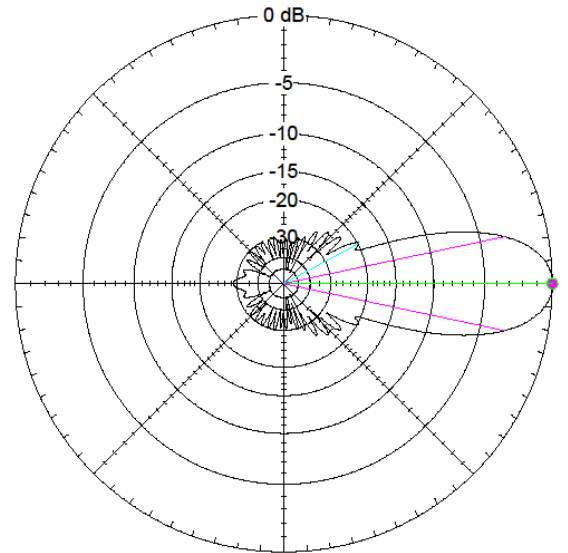
Dipole in free space

432 MHz

Azimuth Plot  
Elevation Angle 0,0 deg.  
Outer Ring 18,6 dBi

Cursor Az 0,0 deg.  
Gain 18,6 dBi  
0,0 dBmax  
0,0 dBmax3D

3D Max Gain 18,6 dBi  
Slice Max Gain 18,6 dBi @ Az Angle = 0,0 deg.  
Front/Back 28,71 dB  
Beamwidth 23,2 deg.; -3dB @ 348,4, 11,6 deg.  
Sidelobe Gain -2,48 dBi @ Az Angle = 28,0 deg.  
Front/Sidelobe 21,08 dB



Dipole in free space

432 MHz

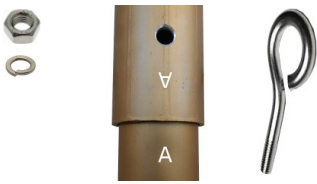
Elevation Plot  
Azimuth Angle 0,0 deg.  
Outer Ring 18,6 dBi

Cursor Elev 0,0 deg.  
Gain 18,6 dBi  
0,0 dBmax  
0,0 dBmax3D

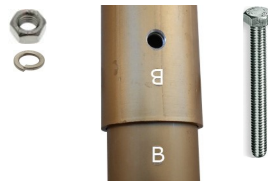
3D Max Gain 18,6 dBi  
Slice Max Gain 18,6 dBi @ Elev Angle = 0,0 deg.  
Front/Back 28,71 dB  
Beamwidth 24,0 deg.; -3dB @ 348,0, 12,0 deg.  
Sidelobe Gain -1,16 dBi @ Elev Angle = 28,0 deg.  
Front/Sidelobe 19,76 dB

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Combine the boom respecting the letters placed at the ends of each section  
Insert the Eyescrew M5 mm washer and nut into the junction points **A - A**  
and **D - D** then insert the screws M5x40 mm washer and nut, junction points  
**B - B** and **C - C**



Kombinieren Sie den Boom und achten Sie dabei auf die Buchstaben am  
Ende jeder Sektion  
Fügen Sie die Schrauben M5x35 mm Unterlegscheibe und Mutter in die Ver-  
bindungsstellen **A - A** und **D - D**, und die Schrauben M5x40 mm Unterleg-  
scheibe und Mutter in den Knotenpunkte **B - B** und **C - C**



Attach the mounting plate between boom and mast **PIA35JXX** between  
elements **12 - 13**



Montieren Sie die Montageplatte zwischen Ausleger und Mast **PIA35JXX**  
zwischen den Elementen **12 - 13**



Combinez le boom sur les lettres placées aux extrémités de chaque section  
Insérez les vis M5x35 mm rondelle et un écrou dans les points de jonction **A**  
- **A** et **D - D** puis, insérez les vis M5x40 mm rondelle et un écrou, les points  
de jonction **B - B** et **C - C**



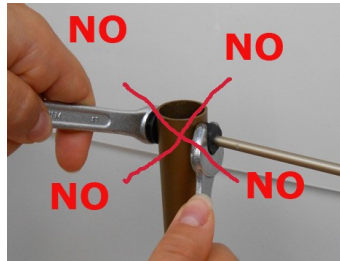
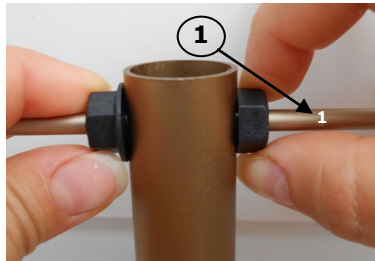
Unire il boom rispettando le lettere poste alle estremità di ogni singola sezio-  
ne  
Inserire le viti ad occhio da M5 mm rondella e dado, nei punti di giunzione **A**  
- **A** e **D - D**, inserire le viti M5x40 mm rondella e dado, nei punti di giunzio-  
ne **B - B** e **C - C**



Fixez la plaque de montage entre la flèche et le mât **PIA35JXX** entre les  
éléments **12 - 13**



Montare la piastra di fissaggio tra boom e mast **PIA35JXX** tra gli elementi  
**12 - 13**



Insert elements as shown in the figure, hand tighten the nut M8 Nylon (**do not use keys as the material used has a self - locking function**)



Fügen Sie die Elemente hinein wie in der Abbildung dargestellt, schrauben  
Sie die Mutter M8 Nylon mit den Händen zusammen (**benutzen Sie keine Schlüssel, da das verwendete Material eine Selbstverriegelung hat**)



Insertion d'éléments comme indiqué sur la figure, serrez à la main l'écrou  
M8 nylon (**ne pas utiliser les touches que le matériau utilisé a une auto - verrouillage**)



Inserire gli elementi come riportato in figura, stringere a mano il dado in  
Nylon da M8 (**non utilizzare chiavi in quanto il materiale impiegato ha effetto auto - bloccante**)



Match the dipole with M5x35 mm and washer as shown in photo



Verbinden Sie die Dipole mit der M5x35 mm Schraube und der Unterleg-  
scheibe wie das Foto zeigt



Installez les dipôle avec M5x35 mm et la rondelle comme indiqué sur la  
photo



Montare il dipolo con vite M5x35 mm e rondella come indicato in foto

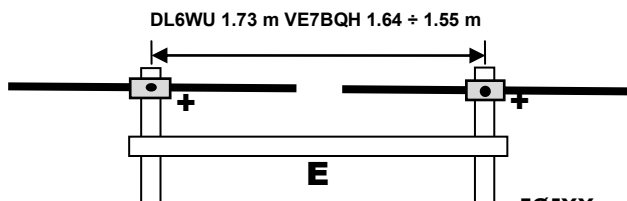
## Stacking

In order to obtain the best results in coupling the antennas, we warmly recommend an adequate antenna stacking calculation which would allow the best forward gain together with low side lobes. The stacking distance may be calculated with the following formula from Güenter Hoch DL6WU

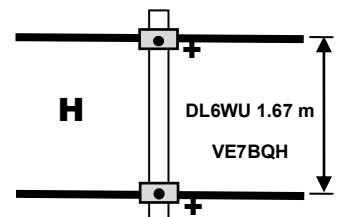
On the basis of further studies conducted by Lionel VE7BQH over the antenna stacking argument, a reduction of 5÷10% may be introduced on stacking distances without noticing significant overall worsening of the characteristics. Do respect the driven element supplying symmetry to allow anti-phase coupling

$$\text{Plane E} = 23.2^\circ = \frac{693.96}{2 * \sin(23.2 / 2)} = \frac{693.96}{0.4022} \cong 1.73 \text{ m (with VE7BQH from 1.64 m to 1.55 m)}$$

$$\text{Plane H} = 24.0^\circ = \frac{693.96}{2 * \sin(24.0 / 2)} = \frac{693.96}{0.4158} \cong 1.67 \text{ m (with VE7BQH from 1.59 m to 1.5 m)}$$



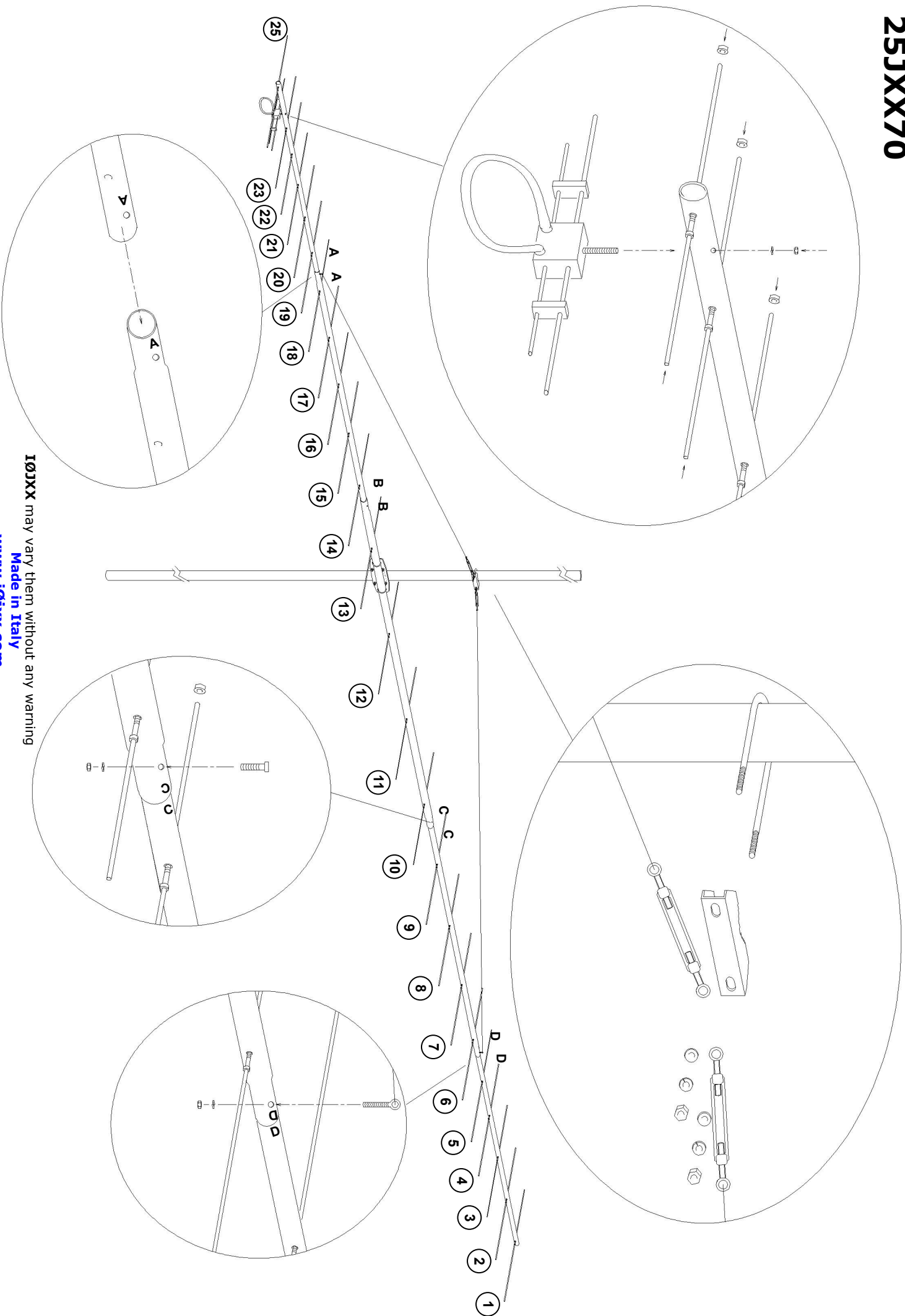
$$d = \frac{L}{2 * \sin(\Phi / 2)}$$



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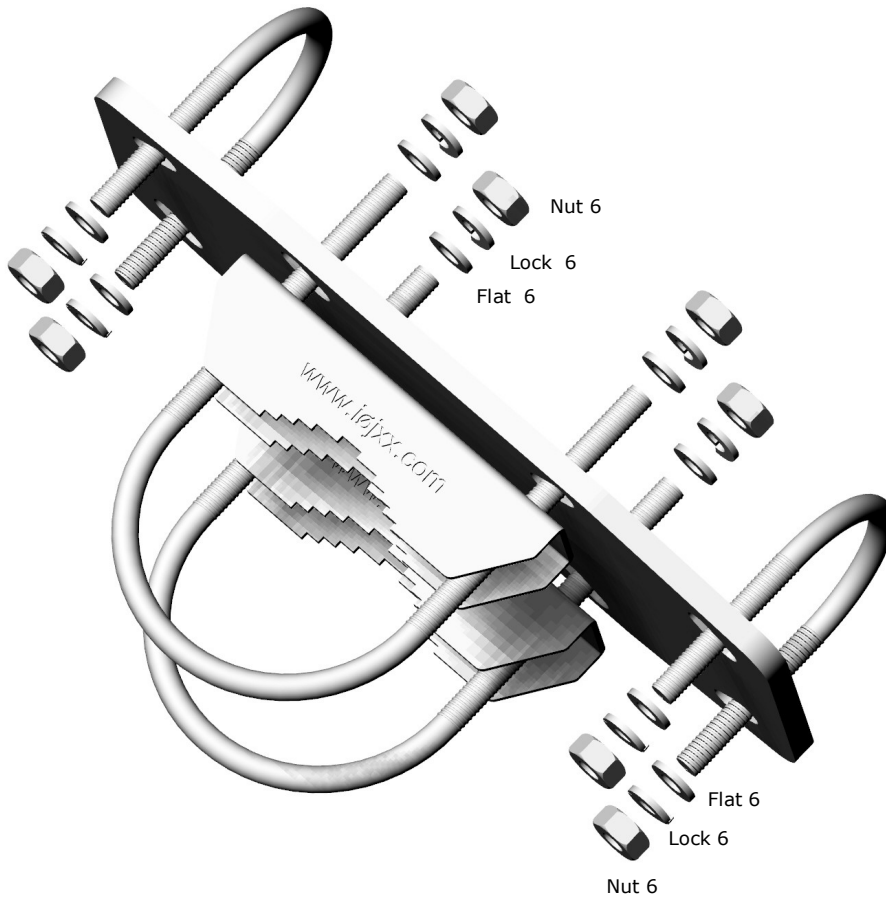
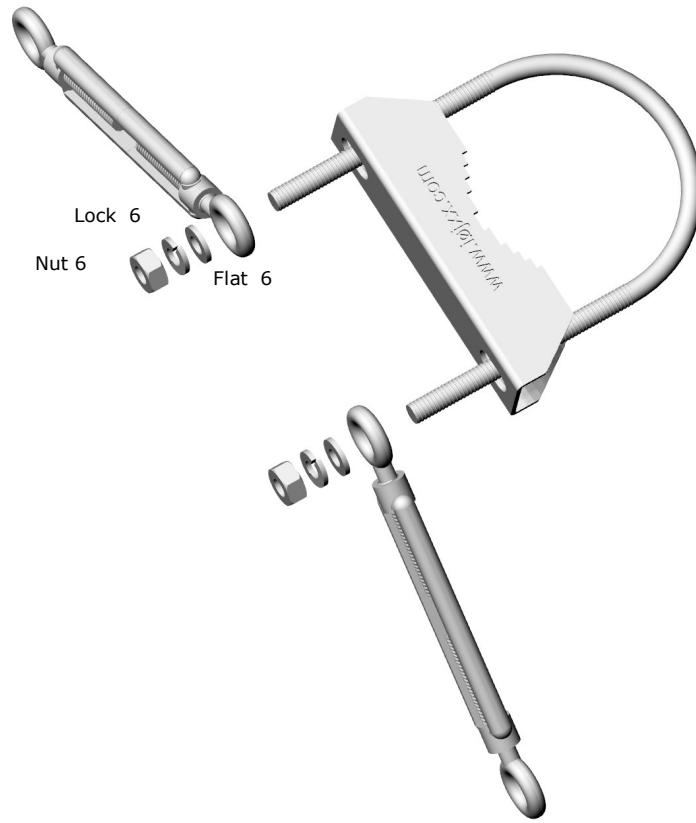
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