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16JXX70 Yagi

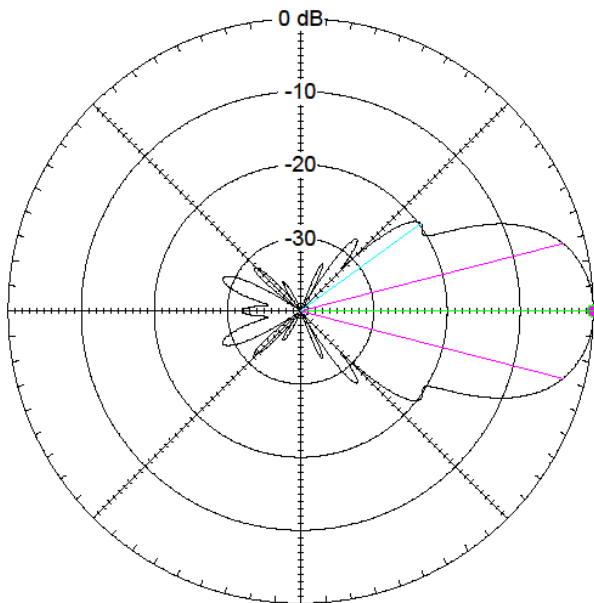
Item		Q.ty	Item		Q.ty
Stainless steel nut M4		4	Stainless steel bolt M4x35		4
Stainless steel nut M6		8	Stainless steel bolt M5x35		1
Nylon nut M8		15	Plate PIA30JXX		1
Dipole with T-match		1	Horizontal element 1÷16		15
Lock washer 4 mm Ø		4	Section boom A 25 mm Ø	100 cm.	1
Lock washer 5 mm Ø		1	Section boom A - B 30 mm Ø	118 cm.	1
Lock washer 6 mm Ø		8	Section boom B 25 mm Ø	108 cm.	1
Flat washer 6 mm Ø		8	Inbuss	2.5 mm	1

Total Field

EZNEC+

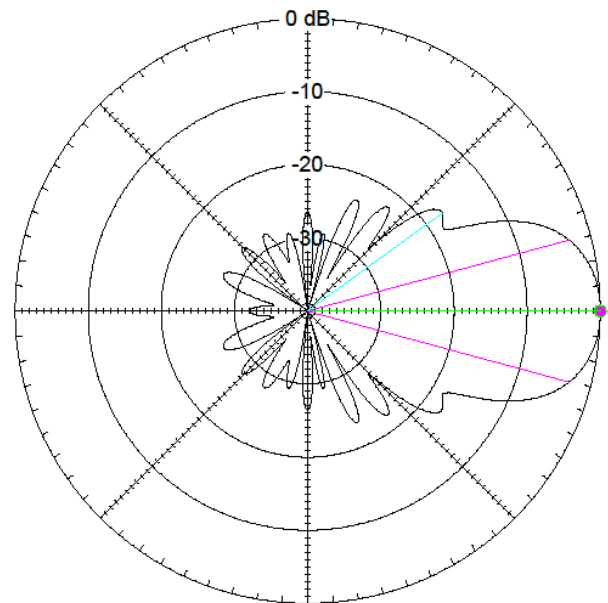
Total Field

EZNEC+



Dipole in free space

432 MHz



Dipole in free space

432 MHz

Azimuth Plot
Elevation Angle 0,0 deg.
Outer Ring 16,56 dBi

Cursor Az 0,0 deg.
Gain 16,56 dBi
0,0 dBmax
0,0 dBmax3D

3D Max Gain 16,56 dBi
Slice Max Gain 16,56 dBi @ Az Angle = 0,0 deg.
Front/Back 32,01 dB
Beamwidth 28,8 deg.; -3dB @ 345,6, 14,4 deg.
Sidelobe Gain -3,09 dBi @ Az Angle = 36,0 deg.
Front/Sidelobe 19,65 dB

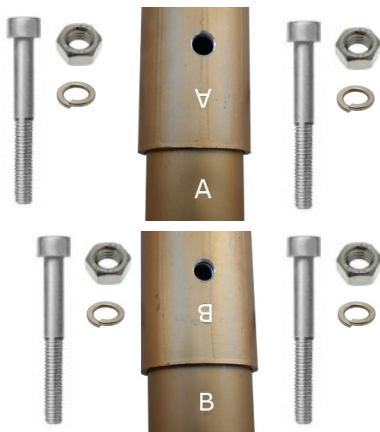
Elevation Plot
Azimuth Angle 0,0 deg.
Outer Ring 16,56 dBi

Cursor Elev 0,0 deg.
Gain 16,56 dBi
0,0 dBmax
0,0 dBmax3D

3D Max Gain 16,56 dBi
Slice Max Gain 16,56 dBi @ Elev Angle = 0,0 deg.
Front/Back 32,01 dB
Beamwidth 30,4 deg.; -3dB @ 344,8, 15,2 deg.
Sidelobe Gain -0,68 dBi @ Elev Angle = 36,0 deg.
Front/Sidelobe 17,24 dB

IØJXX may vary them without any warning

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Combine the boom respecting the letters placed at the ends of each section
Insert the screws M4x35 mm washer and nut into the junction points **A - A** and **B - B**



Kombinieren Sie den Boom und achten Sie dabei auf die Buchstaben am Ende jeder Sektion
Fügen Sie die Schrauben M4x35 mm Unterlegscheibe und Mutter in die Verbindungsstellen **A - A** und **B - B**



Combinez le boom sur les lettres placées aux extrémités de chaque section
Insérez les vis M4x35 mm rondelle et un écrou dans les points de jonction **A - A** et **B - B**



Unire il boom rispettando le lettere poste alle estremità di ogni singola sezione
Inserire le viti M4x35 mm rondella e dado, nei punti di giunzione **A - A** e **B - B**



Attach the mounting plate between boom and mast **PIA30JXX** between elements **7 - 8**



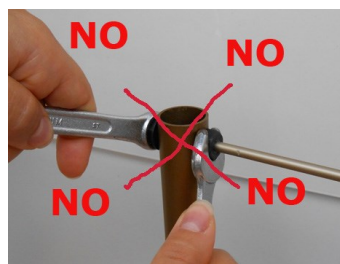
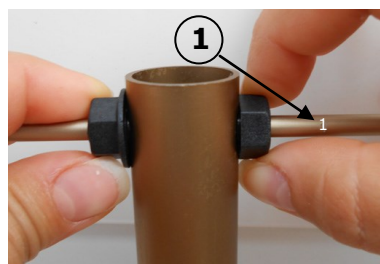
Montieren Sie die Montageplatte zwischen Ausleger und Mast **PIA30JXX** zwischen den Elementen **7 - 8**



Fixez la plaque de montage entre la flèche et le mât **PIA30JXX** entre les éléments **7 - 8**



Montare la piastra di fissaggio tra boom e mast **PIA30JXX** tra gli elementi **7 - 8**



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 Unterlegscheibe 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

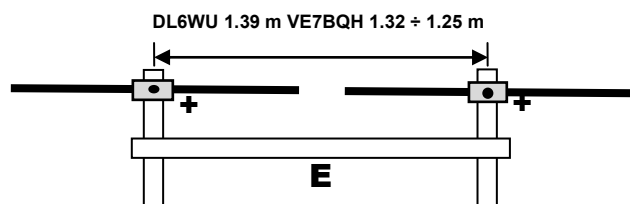
Stacking

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

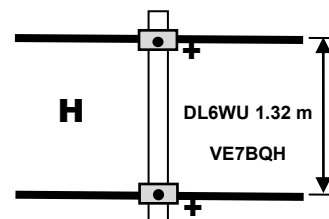
On the basis of further studies conducted by Lionel VE7BQH over the antenna stacking argument, a reduction of 5÷10% may be introduced on stacking distances without noticing significant overall worsening of the characteristics. Do respect the driven element supplying symmetry to allow anti-phase coupling

$$\text{Plane E} = 28.8^\circ = \frac{693.96}{2 * \sin (28.8 / 2)} = \frac{693.96}{0.4973} \cong 1.39 \text{ m (with VE7BQH from 1.32 m to 1.25 m)}$$

$$\text{Plane H} = 30.4^\circ = \frac{693.96}{2 * \sin (30.4 / 2)} = \frac{693.96}{0.5244} \cong 1.32 \text{ m (with VE7BQH from 1.26 m to 1.19)}$$



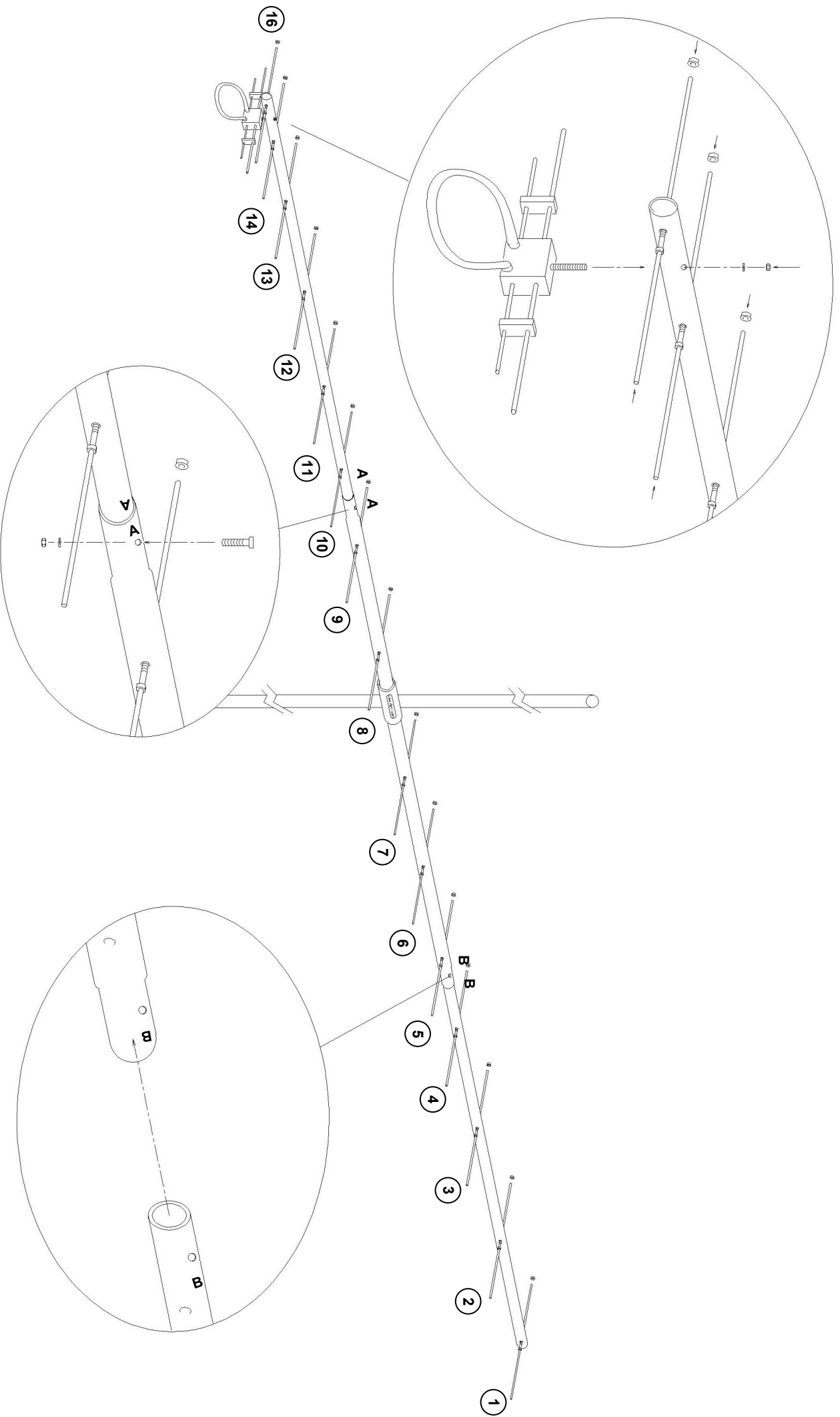
$$d = \frac{L}{2 * \sin (\Phi / 2)}$$



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