



yagi antenna

5070mox

Thank you for choosing EAntenna.

17754.0604

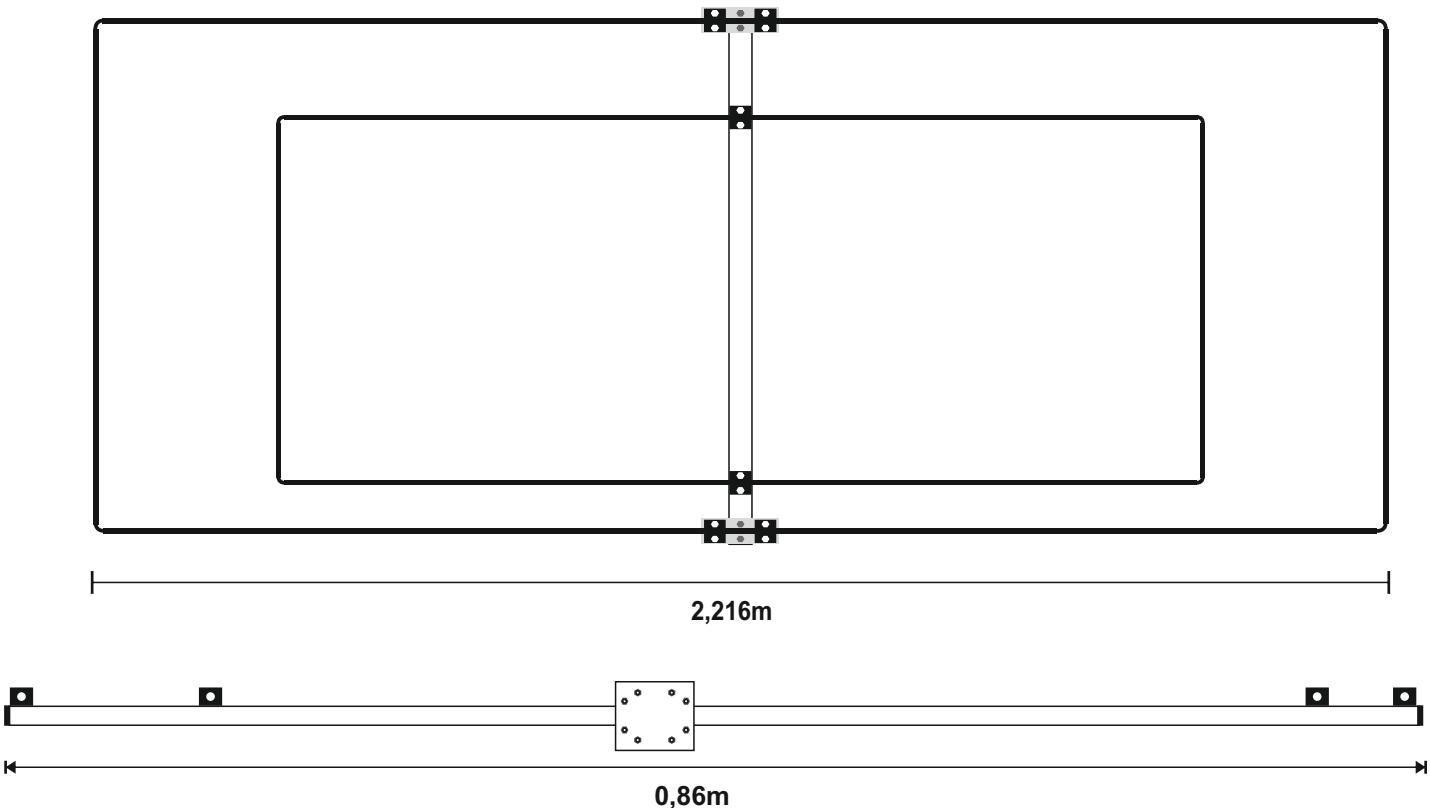
All our products are manufactured and developed with the best materials on the market, to offer the best qualities and guarantees to our customers.

The Yagi type MOXON antennas were developed by Leslie A. Moxon, to be used in communications in HF during the 2nd half of the 20th century, quite successfully. Its cost, profit and ease of construction make it an option very convenient. As it is a specific antenna according to the bands in which we want to operate. The address of the maximum Gain is obtained in the opposite direction to the reflector and perpendicular to the radiating element. According to the position with respect to ground, horizontal or vertical, will be its polarization. It is very important that this coincides with the polarization used in the antenna of the equipment to which you connect with this antenna.

Like any antenna manufactured by EAntenna, we do not include a connector, to have the minimum losses. We include terminals to solder directly, although we offer as an option balun or ferrites EMI / RFI.

We detail the materials used, for their best use and assembly. All the fittings are made of stainless steel and the Aluminum is made of T6061 or T6063 alloy, known as Aeronautical Aluminium, which offers the best conditions to withstand the most extreme climates, the force of the wind and the best conductivity. The plastics used, is Polyamide or Polypropylene, which offer the best hardness and durability for the passage of time. We offer guarantee in the operation, and guarantee in the ironworks, delivering the kit of hardware some extra pieces, for possible losses or forced breakages.

In the following pages we detail the exploded view with its graphics.

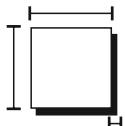


Peso: 2,5Kg.

Max. Potencia: 10,0 kW



	SPECIFICATIONS	EAntenna	5070MOX
	Elements:	2	2
14,0.....21,0 MHz.	Frequency Range:	50~52 MHz.	70~70,5 MHz.
	Gain:	5,95 dBi	6,03 dBi
	F/B:	32,6 dB	35,8 dB
	SWR:	1,0:1~1,2:1	1,0:1~1,2:1
Ω	Impedance	50 Ohms	50 Ohms
	Max. Power:	10 kW.	10 kW.
	Boom Length:	0,86m	34"
	Wind Survival	$\geq 220\text{kmh}$ / \geq	$\geq 135\text{mph}$
	Weight:	3,0 Kg.	6,6 Pounds



Boom Size: 30x30x2mm



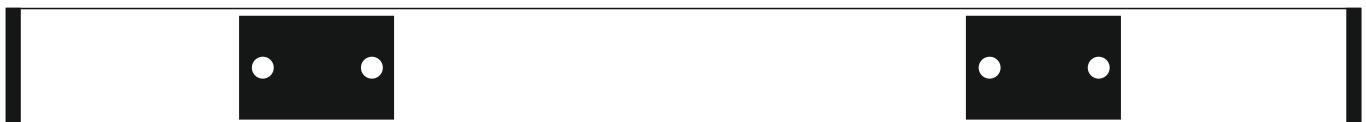
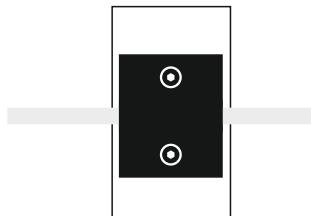
Element Diameter: 13x1mm - LOOP 10x1mm

70 MHz.

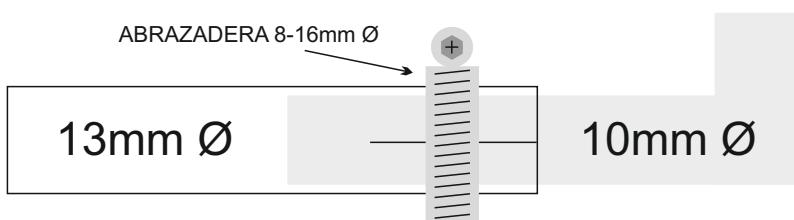
Las medidas de la pagina anterior están expresadas en **medidas exteriores**, o sea, midiendo desde cada extremo del tubo. Una vez que los elementos horizontales estén ensamblados correctamente, se procede a formar el rectángulo con las medidas facilitadas en la pagina 2.

Tener en cuenta la posición de los extremos según la pagina 6, para tener en cuenta el reflector y el driven para que no se coloquen de la forma incorrecta. Para fijar el elemento al boom, posicione el plástico de **13mm (EAHYP013)** en las posiciones donde corresponde, y se fijan con los tornillos **DIN 912 M6X40**.

AMBOS ELEMENTOS



La fijación de cada elemento con la parte curva es mediante la abrazadera Sin/Fin 8-16mm (P0100022)
La medida de ajuste está justamente debajo. Esta medida es desde final del tubo de 13mm al extremo de la curva.



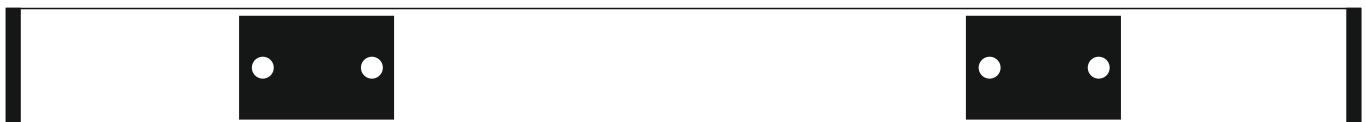
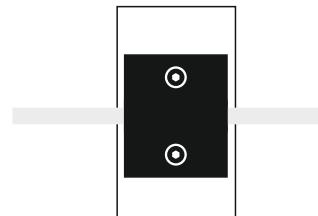
66mm

70 MHz.

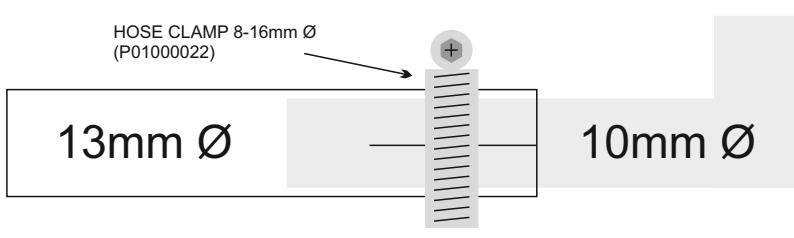
The measures of the previous page are expressed in external dimensions, ie, measuring from each end of the tube. Once the horizontal elements are assembled correctly, proceed to form a rectangle with the measures provided below.

Take into account the position of the ends according to page 6, to take account of the reflector and drivendo not reverse. To set the reflector to boom, position the **plastic clamps of 13mm (EAHYP013)** in positions where it belongs, and fixed with screws DIN 912 M6x40.

BOTH ELEMENTS



The fixing of the LOOP element, each element is using a Hose Clamp 8-16mm (P0100022) the 13 to 10mm diameter.
The final lenght is the pre-sintonized. The lenght is from the end of the 13mm tube to the outside of the bend tube.

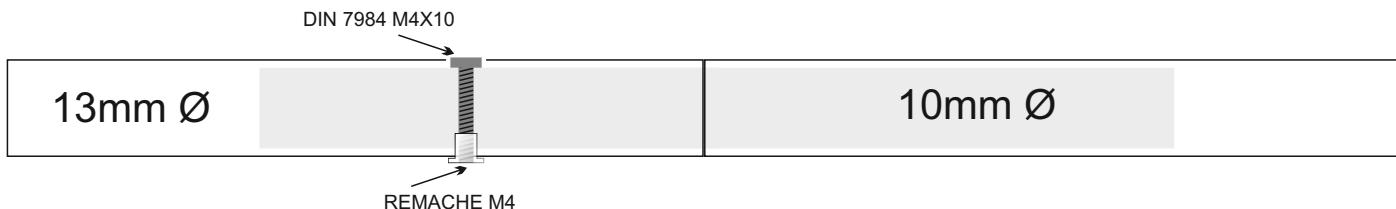


66mm

50 MHz.

ESPAÑOL

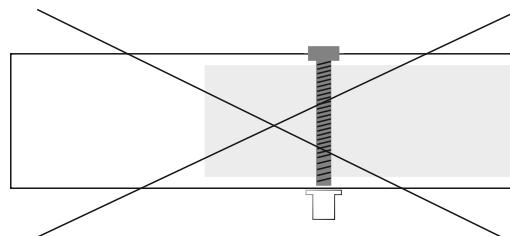
El ensamblaje de los elementos, una vez seleccionados todos las longitudes, colocar en cada mitad de 13mm Ø frontalmente, introduciendo uno a uno, los tubos de 10mm Ø x 200mm (**EA0120010**) en una de las mitades. Una vez ya fijada la primera parte de un elemento, introducir la siguiente mitad y fijarla de nuevo con los tornillos DIN 7984 M4X10 y el remache M4 que aparece detallado debajo. Tener en cuenta que la **cabeza del tornillo** tiene que **quedarse alojada dentro del hueco de mas diámetro del elemento**.



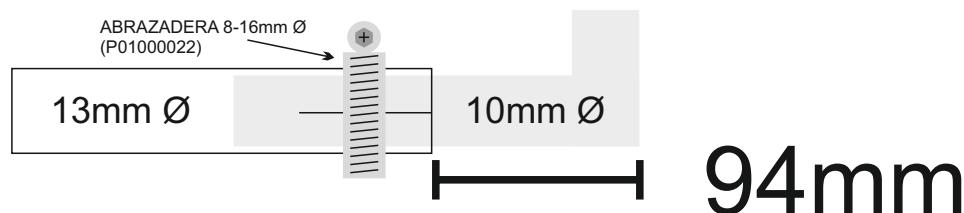
SI



NO



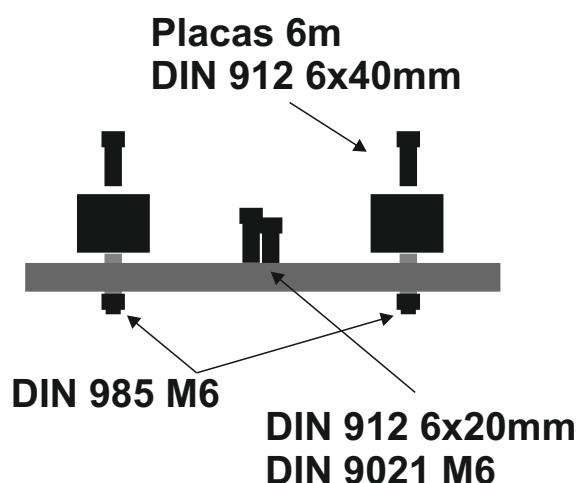
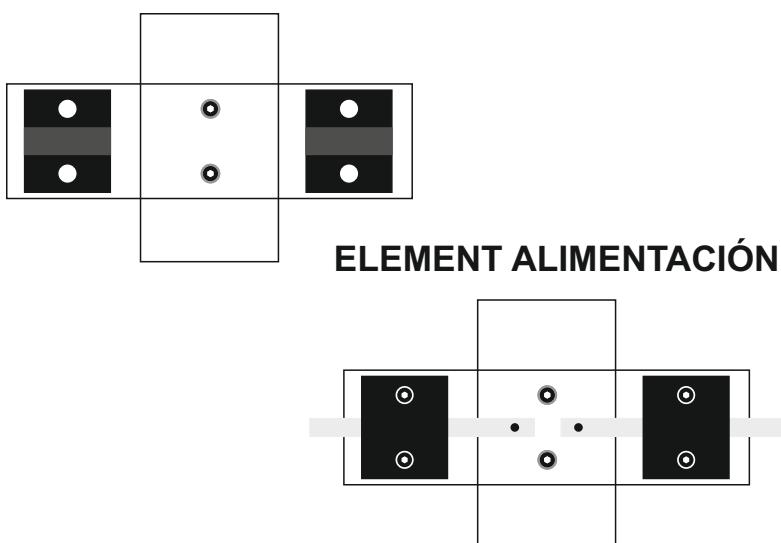
La fijación de los elementos del Rectangulo DE, es mediante abrazadera **Sin/Fin 8-16mm (P0100022)** de los elementos de 13 a 10mm.



Las medidas de la pagina 2 están expresadas en medidas exteriores, o sea, midiendo desde cada extremo del tubo. Una vez que los elementos estén ensamblados correctamente, se procede a poner cada elemento en la placa al boom, con lo que sería el ultimo paso de montaje. Unir las placas al boom como se especifica debajo.

Una vez que tiene los elementos ensamblados, y el boom, es momento de **montar** los las placas al boom y después los elementos a la placa. Lo que **aconsejamos** es que se **empiece por las placas al boom, así montara la antena de una pieza**. Si lo que **quiere** es subir los elementos, una vez el **boom puesto en el mástil**, aconsejamos poner los elementos a las placas para su mejor unión del conjunto "placa/elemento" al boom.

Para poner los elementos a la placa, tendría que centrar con la ayuda de una cinta métrica, cada elemento de 13mm Ø, a la mitad (60cm), y una vez centrado, fijar con la otra parte del (**EAHYP013**) con los tornillos **DIN 912 M6X40**, como aparece en el dibujo inferior.

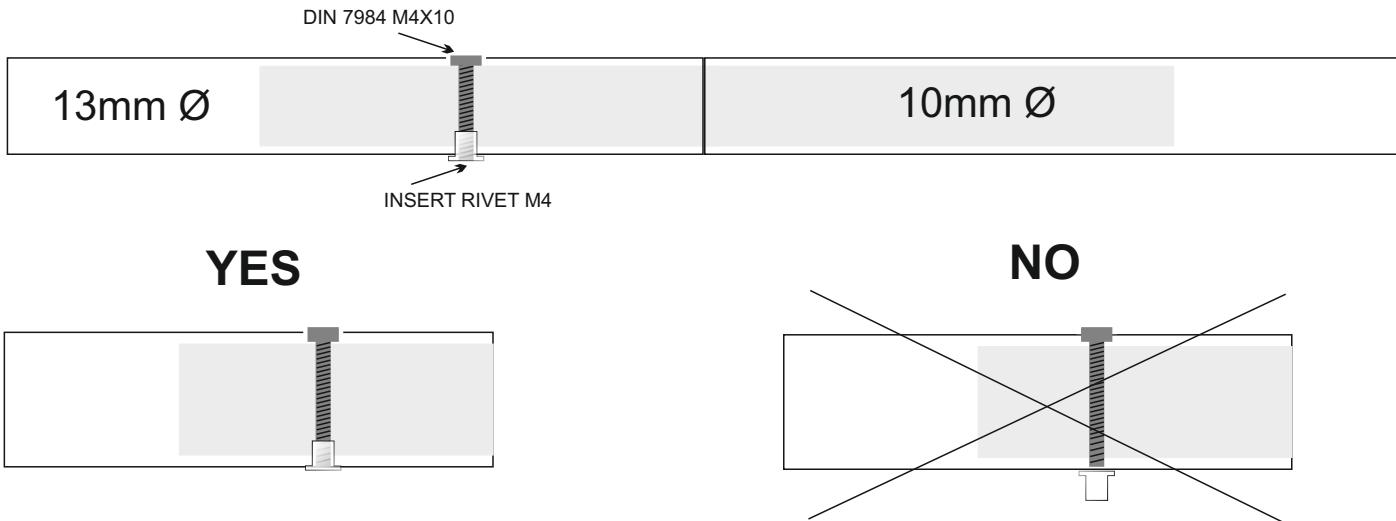


Para colocar cada placa al boom, se fija mediante los tornillos **DIN 912 M6X20** y arandela **DIN 9021 M6**. Esta placa debe de quedar bien firme para la colocación del elemento. El paso siguiente sería igual que los demás elementos, **pero teniendo en cuenta que los tornillos que utilizaremos son DIN 912 M6X40 y tuercas autoblocante DIN 985 M6 una vez que esté ensamblada toda la antena**.

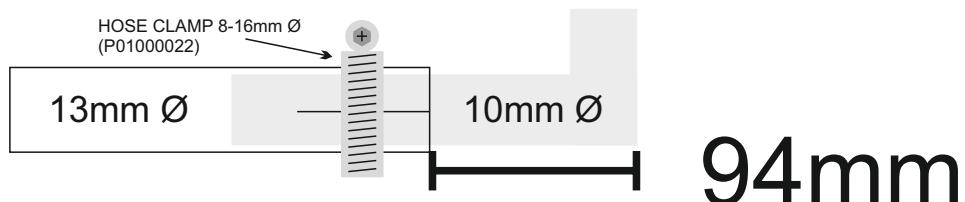
50 MHz.

ENGLISH

The assembly of elements, once selected all lengths, place in each half of Ø 13mm front, insert one by one, the tubes of 10mm diameter x 200mm (**EA0120010**) in one of the 13mm tube. Once fixed and the first part of an item, enter the next half and secure again screws DIN 7984 M4X10 and the M4 Insert rivet which is detailed below. **Note that the screw head has to be accommodated within the bigger hole in element.**



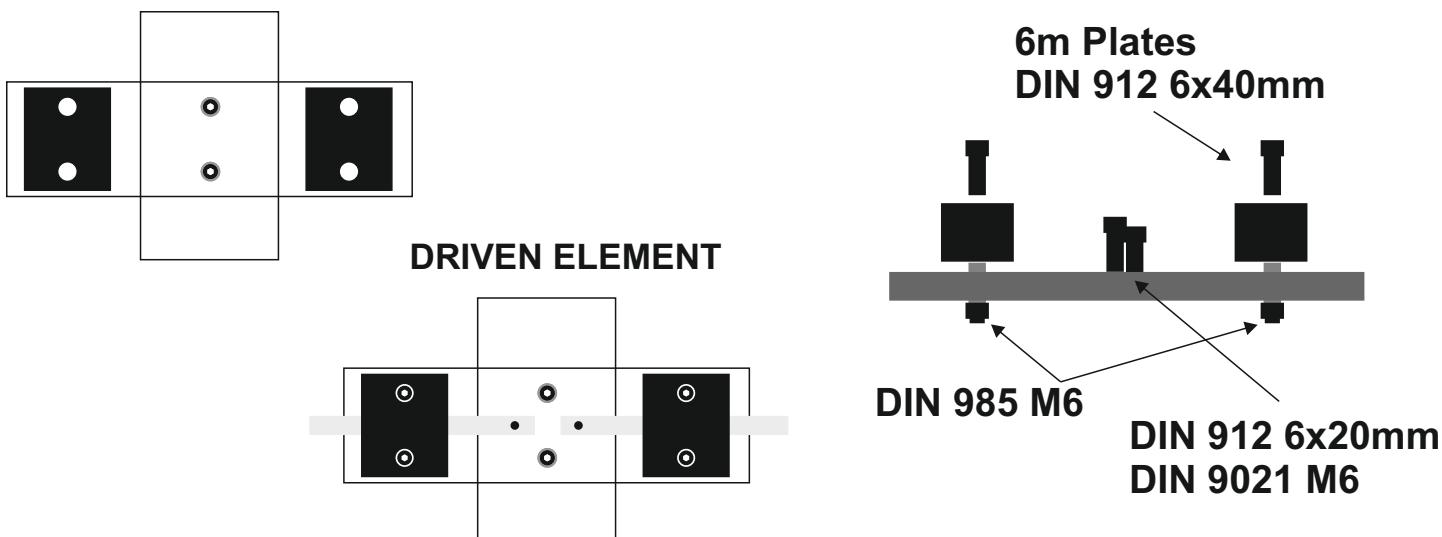
The fixing of the LOOP element, each element is using a Hose Clamp 8-16mm (P0100022) the 13 to 10mm diameter.



Measures page 2 are expressed in external lenght , ie, measuring from each end of the tube. Once elements are assembled correctly , proceed to put each item on the plate to the boom , which would be the last step assembly . Attach plates to boom as specified below .

Once you have the elements assembled, and the boom, it's time to mount the plates to the boom and then the elements to the plate. What we advise is to start with the plates to the boom, if you rise up the antenna in one piece. If what you want is to raise the elements once the boom is placed on the mast, we recommend putting the elements to the plates for their best way of the "plate / element" assembly to the boom.

To add the elements to the plate would have to focus with the help of a tape measure, each element of Ø 13mm, mark in the half with a edding, and a once centered fix to the plate with the green plastic blocks (**EAHYP013**) with screws **DIN 912 M6X40**, as shown in the drawing below .

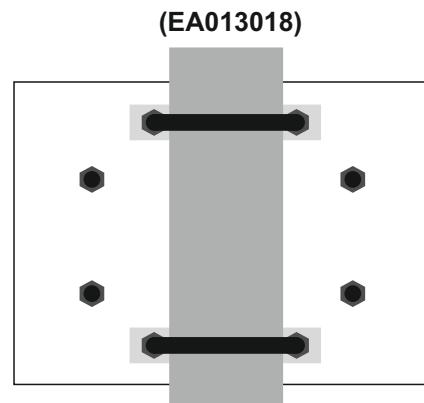
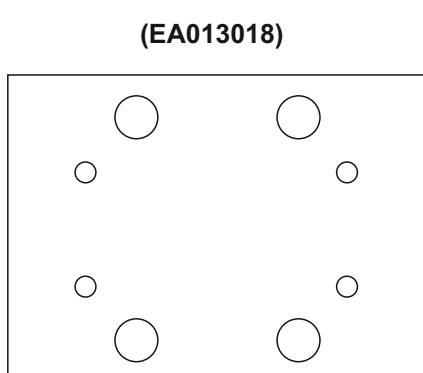


To place each plate to the boom, are fixed by screws **DIN 912 M6X20** and **DIN 9021 M6** washer. This plate must be very firm for positioning the element. The next step would be like the other elements, but considering that the screws use are **DIN 912 M6X40** and **DIN 985 M6** self-locking nuts once it is all assembled antenna.

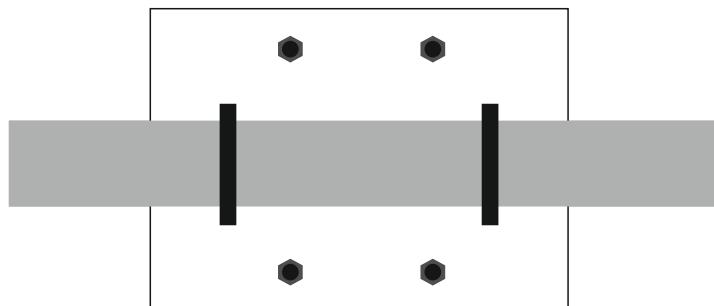
La placa de sujeción BOOM/MÁSTIL (EA013018) de 100X100X6mm consta de 8 agujeros; 4 gruesos para los abarcones redondos y 4 para los abarcones cuadrados que sujetan el BOOM.

Los 4 agujeros de mayor grosor tienen la función de que hagan la mayor fuerza sobre el mástil, mediante abarcones redondos de M8. Los abarcones redondos de M8 (A-0163), van fijados mediante arandela DIN 9021 M8 y tuerca DIN 934 M8 proporcionadas en el mismo abarcón, y fijada al mástil con la Mordaza (23035.50).

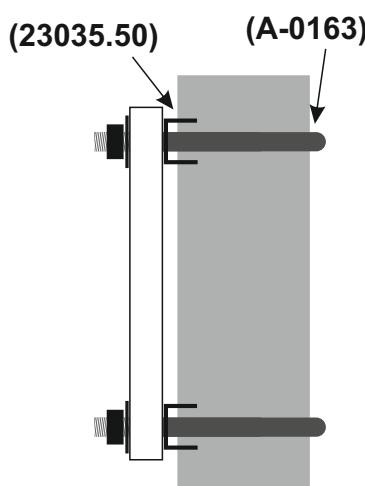
Detallamos dibujos para una mayor ilustración:



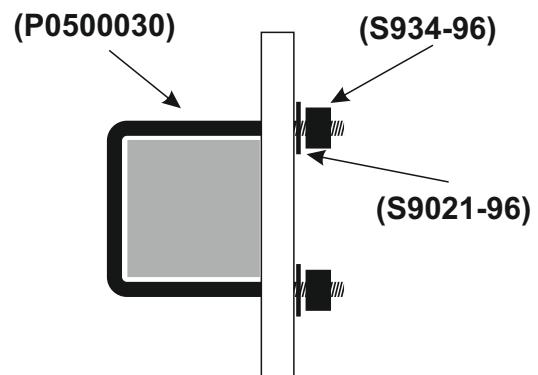
Front view from Mast



Front view from BOOM



Vista lateral desde el mástil



Vista lateral desde el BOOM

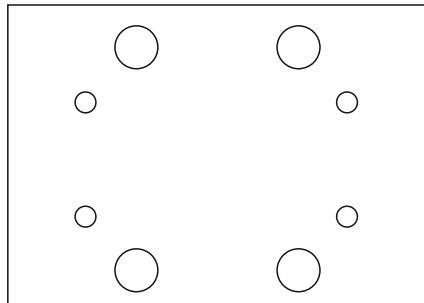
MAST TO BOOM PLATE ASSEMBLY

ENGLISH

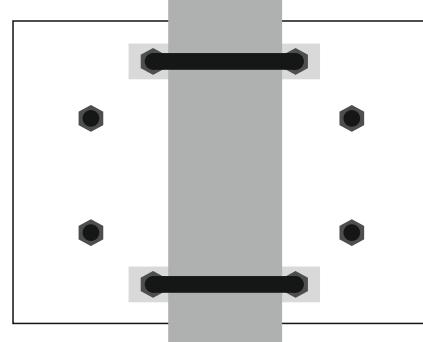
The clamping plate **BOOM / MAST (EA013018)** 100X100X6mm consists of **8 holes**; **4 thick for round U-bolts** and **4 square U-bolts for securing the BOOM**.

The **4 holes are thicker** function that make the greatest force on the mast by means of M8 round U-bolts. **Round U-bolts M8 (A-0163)**, are secured by washer **DIN 9021 M8** and nut **DIN 934 M8** provided in the same bag, and fixed to the mast with clamp **(23035.50)**. Detailed drawings for further illustration:

(EA013018)

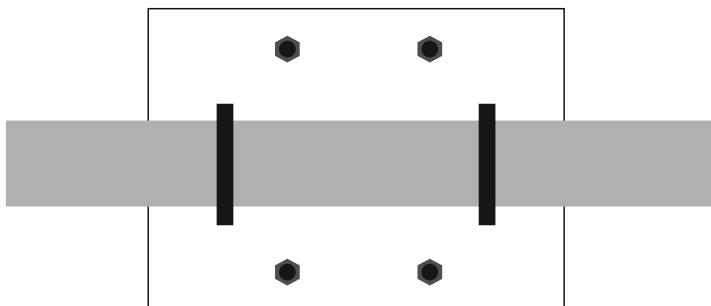


(EA013018)

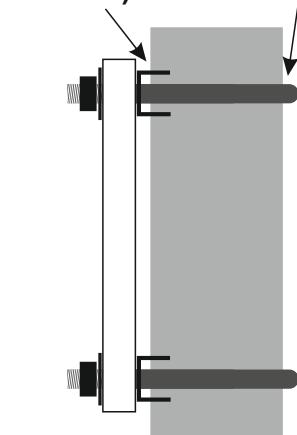


Front view from Mast

Front view from BOOM

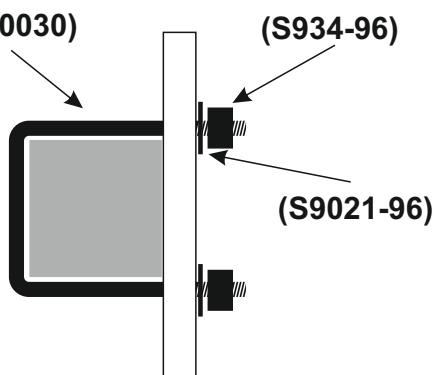


(23035.50) (A-0163)



Side view from Mast

(P0500030)

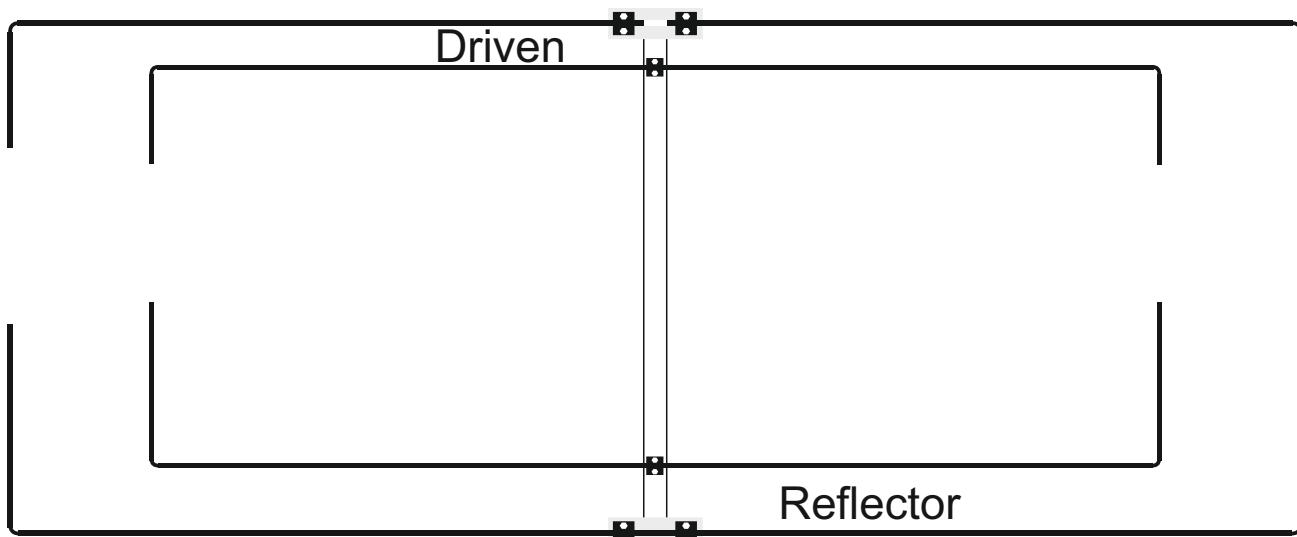


Side view from BOOM

(S934-96)

(S9021-96)

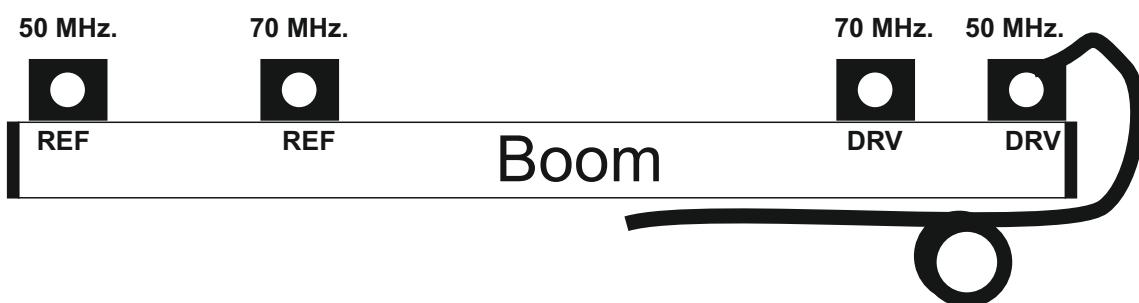
Dirección directividad
Beam Direction



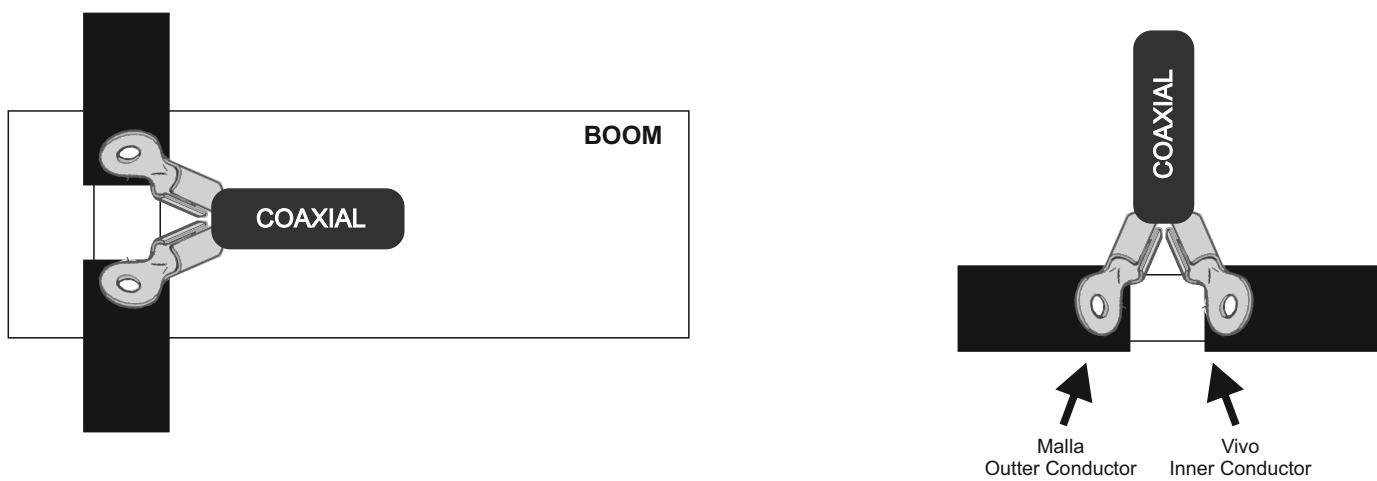
Alimentación mediante coaxial:

Solo alimentamos el elemento de 50 MHz.

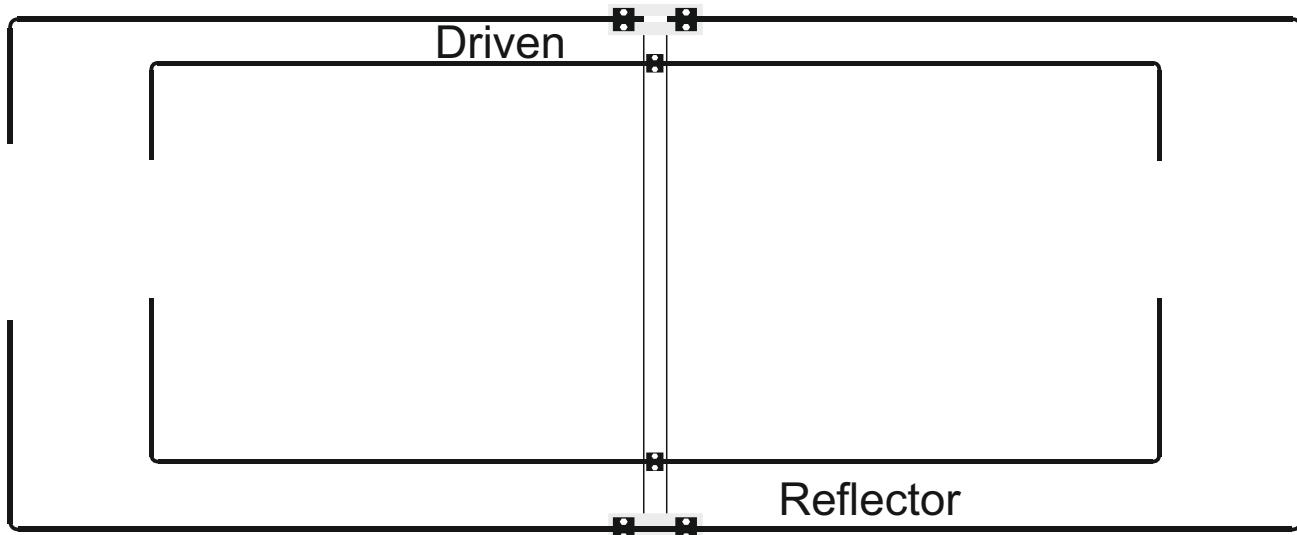
Después de varios ensayos, vemos que el balun de aluminio hace peor trabajo que un choque de coaxial. Por esto, recomendamos hacer a escaso centímetros o metros de la alimentación, un choque del coaxial de bajada de 6 vueltas de 8 centímetros de diámetro y así el retorno de RF será mínimo o nulo. Como se puede ver en el dibujo de más abajo, aconsejamos que siempre el choque se haga por debajo de los elementos para que el coaxial no haga interacción con los elementos.



!Hagalo lo mas corto posible!



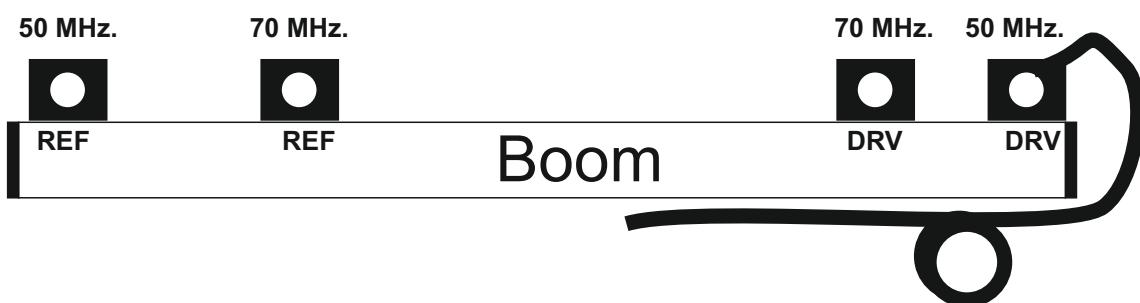
↑
Dirección directividad
Beam Direction



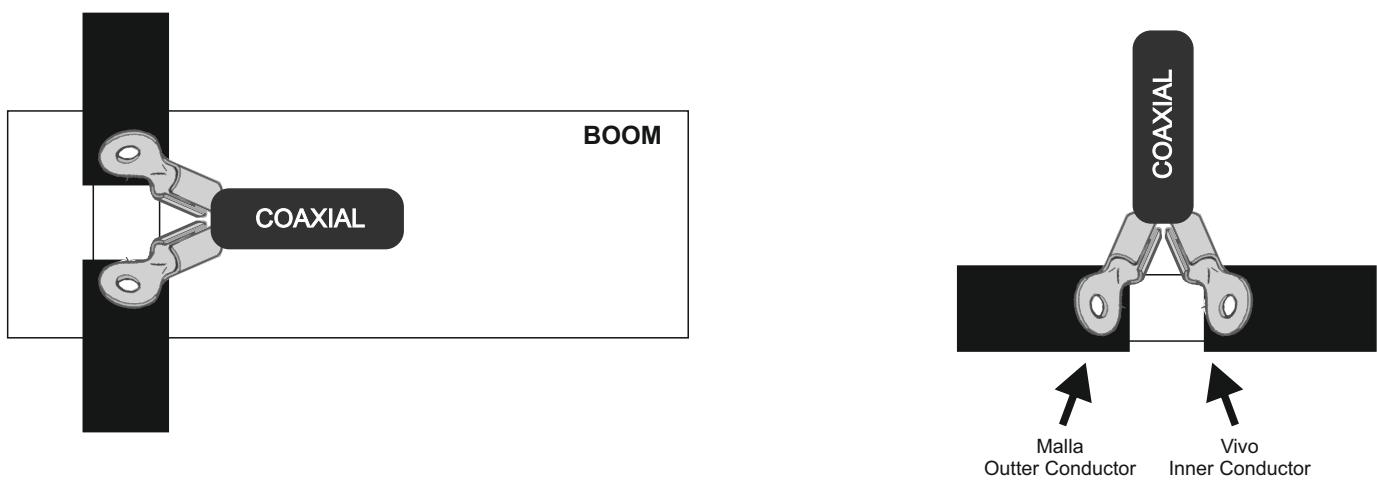
Coax cable feeding:

After several trials, we see that the balun aluminum makes it worse job than a coaxial choke. For this, we recommend 5 turns of 8 cm and thus the RF return will be minimal or absent.

The below drawing advise you how to do the clash below the boom to avoid interaction with the elements.



Keep the splice as short as possible !



ESPAÑOL**ENGLISH**
PACKING LIST
LISTA DE PIEZAS
BOLSA 1 - BAG #1

PART # PIEZA N°	IMAGEN PART IMAGE	DESCRIPCION DESCRIPTION	MEDIDAS SIZES	CANTIDAD QUANTITY
EA013018		Placa Mástil/Boom Mast and Boom plate	100 x 100 x 6mm	1
A-0163		Abarcon U-Bolt.	50mm, M8	2
23035.50		Mordaza Tube Clamp	50mm	2
S127-98		DIN 127 WASHER	M8	4
S934-98		DIN 934 NUT	M8	4
P0500030		Abarcon Cuadrado Square Clamp	30mm	2
S9021-96		DIN 9021	M6	4
S934-96		DIN 934	M6	4
P1300001		Llave Allen	5mm	1
P1300003		Llave Fija	M10	1

ESPAÑOL**ENGLISH****BOLSA 2 - BAG #2**

PART # PIEZA N°	IMAGEN PART IMAGE	DESCRIPCION DESCRIPTION	MEDIDAS SIZES	CANTIDAD QUANTITY
EA010026		Placa para Elementos Elements plates	150x50x6mm	2
S912-9620		Tornillo Allen DIN 912 Allen DIN 912 Screw	M6x20mm	4
S9021-96		DIN 9021	M6	4
EAHYP013		Plásticos Plastic Blocks	13mm Ø	6
S912-9640		Tornillo Allen DIN 912 Allen DIN 912 Screw	M6x40mm	12
S985-906		Tuerca Autoblocante DIN 985 DIN 985 NUT	M6	8
P0100022		Abrazadera Sin-Fin Hose clamp	8-12mm	8
EA0120010		Pieza unión elementos Join elements part	200m x 10mm Ø	1

BOLSA 3 - BAG #3

PART # PIEZA N°	IMAGEN PART IMAGE	DESCRIPCION DESCRIPTION	MEDIDAS SIZES	CANTIDAD QUANTITY
S7984-9410		DIN 7984	M4x10mm	2
RIVSS_M4		Remache M4 M4 Rivnut	M4	2

PACKING LIST
LISTA DE PIEZAS

PART # PIEZA N°	IMAGEN PART IMAGE	DESCRIPCION DESCRIPTION	MEDIDAS SIZES	CANTIDAD QUANTITY
5070MOX BOOM		Boom	864mm x 30mm	1
		Parte Central Reflector Reflector Middle tube	1015mm x 13mm Ø	1
		Parte Central Reflector con Union Reflector Middle tube with Inner joint	1015mm x 13mm Ø	1
		Parte Central Driven Driven Middle tube	1010mm x 13mm Ø	1
		Parte Central Driven con Union Driven Middle tube with Inner joint	1010mm x 13mm Ø	1
		50 MHz. Sección Tubo 10mm 50 MHz. 10mm Tube section	814mm x 10mm Ø	2
		Parte Central 70 MHz. 70 Mhz. Central Tube	1530mm x 13mm Ø	2
		70 MHz. Sección Tubo 10mm 70 MHz. 10mm Tube section	565mm x 10mm Ø	2