# yagi antenna 2850mox

Thank you for choosing EAntenna.

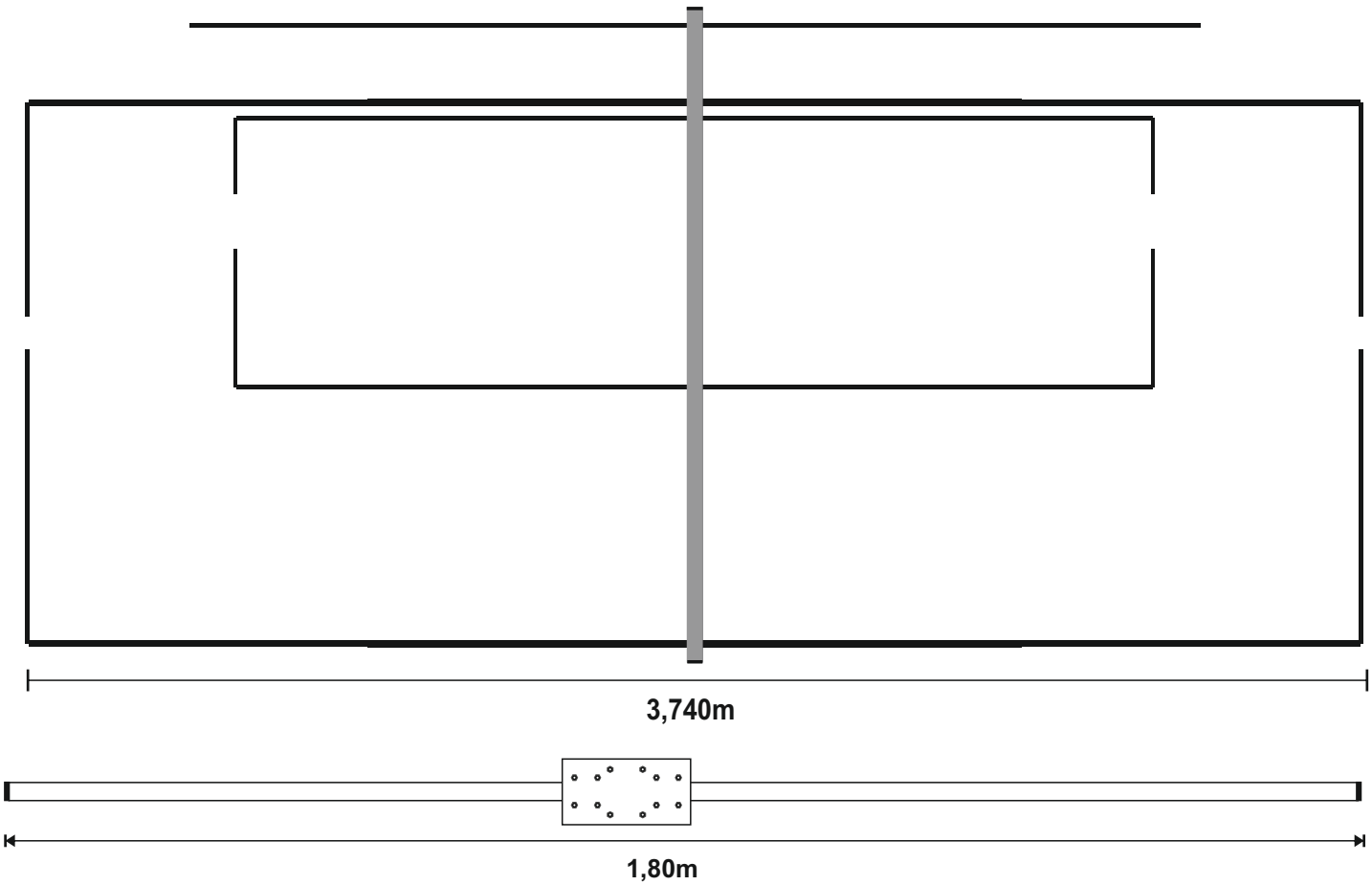
**17824.2850**

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.

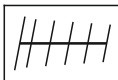
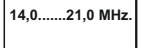
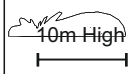
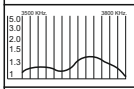
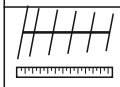
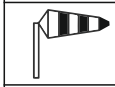
We detail the materials used, for their best use and assembly. All the fittings are made of stainless steel and the Aluminum is made of T6061 or T6063 alloy, known as Aeronautical Aluminium, which offers the best conditions to withstand the most extreme climates, the force of the wind and the best conductivity. 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.

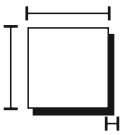
In the following pages we detail the exploded view with its graphics.




**Peso: 6,2Kg.**
**Max. Potencia: 3,0 kW***

**Rev. V1.1 - 12/03/21**

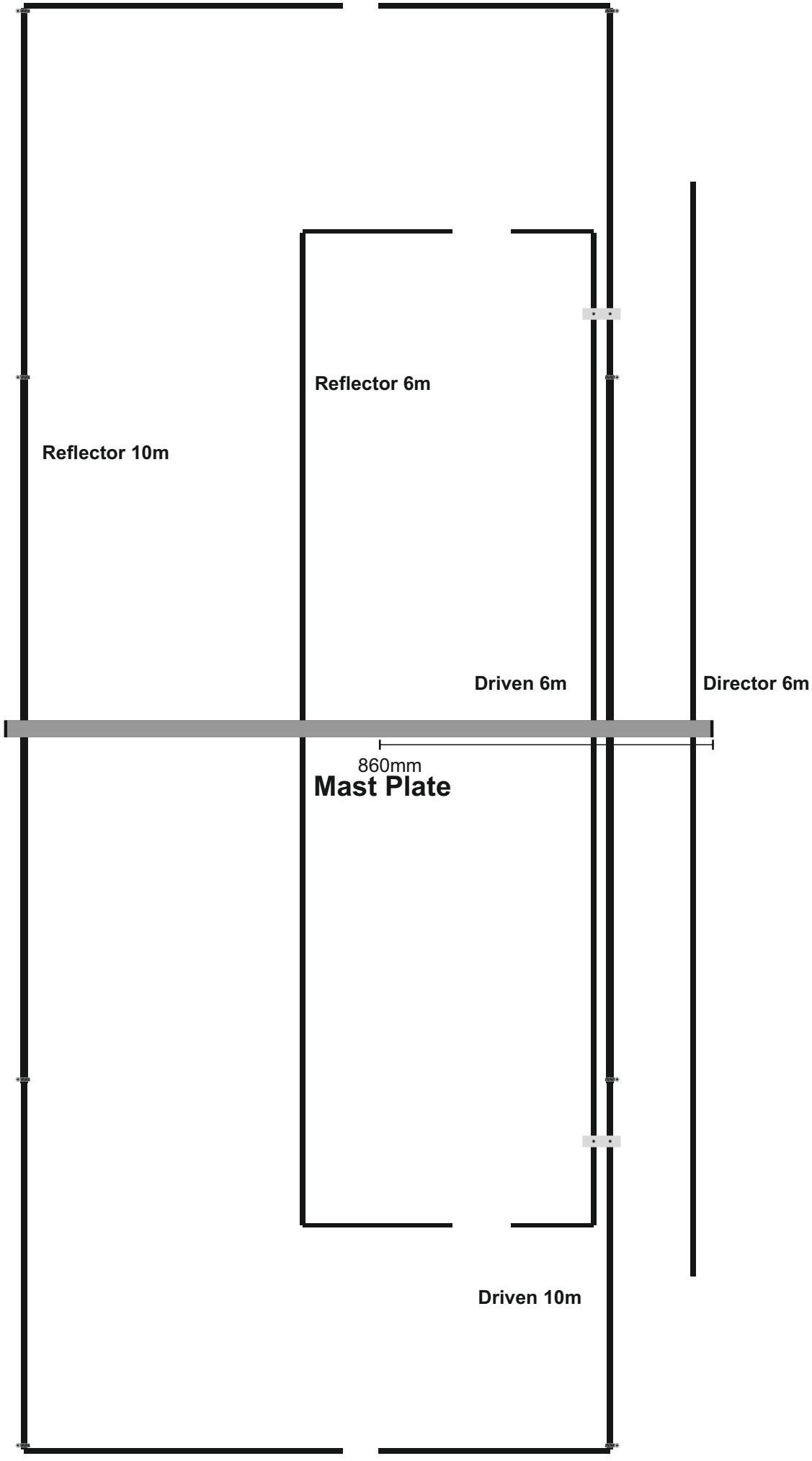
| | SPECIFICATIONS | EAntenna | 2850MOX |
|---|---|---|---|
|  | Elements: | 2 | 3 |
|   | Frequency Range: | 28~29,7 MHz. | 50~52 MHz. |
|  | Gain: | 8,32 dBi | 10,52 dBi |
|   | Gain @10m High: | 13,85 dBi | 16,48 dBi |
|  | F/B: | 21,0 dB | 12,0 dB |
|  | SWR: | 1,0:1~1,5:1 @1000KHz | 1,0:1~1,3:1 @1500KHz |
| Ω | Impedance | 50 Ohms | 50 Ohms |
|   | Max. Power: | 10 kW. | 10 kW. |
|  | Boom Length: | 1,8m | 5,90' |
|  | Wind Survival | ≥ 200kmh / ≥ | ≥ 120mph |
|  | Weight: | 6,2 Kg. | 8,4 Pounds |




**Boom Size:** 40x40x2mm


**Element Diameter:** 10m 20x1,5mm - 16x1mm - LOOP 13x1mm
6m 13x1mm - LOOP 10x1mm

**ENGLISH** **ESPAÑOL**



## ESPAÑOL

El BOOM cuadrado tiene 4 caras, para identificar por que parte del boom ensamblaremos la antena.
Cara A; en esta cara del boom se introducen los tornillos DIN 7991 M4x40 para la sujección de los elementos.
Cara B; la cara opuesta a la A es donde se introduce la tuerca DIN 934 M4 y aprieta con una llave del número 7.
Cara C y D; en estos agujeros van introducidos los elementos.

El montaje de la Eantenna 2850MOX es tan fácil como introducir cada elemento en su correspondiente agujero en el boom (Cara C y D), y con el el tornillo DIN 7991 M4x40roscar sobre el mismo elemento (CARA A). Para reforzar el elemento al boom, se añade una tuerca M4 DIN 934 que con una llave de vaso o tubo del número 7 se aprieta fácilmente (CARA B)

## ENGLISH

The square BOOM has 4 sides, to identify by which part of the boom we will assemble the antenna.
**Side A**; On this side of the boom the screws DIN 7991 M4x40 are inserted for fastening the elements.
**Side B**; the side opposite to the A is where the nut DIN 934 M4 is installed.
**Side C and D**; in these holes the elements are inserted.

The assembly of the Eantenna 2850MOX is as easy as inserting each element in its corresponding hole in the boom (**SIDE C and D**), and with a screw DIN 7991 M4x40 thread on the same element (**SIDE A**). In addition, an M4 nut is added, which ensures that the element does not get loose. (**SIDE B**)

# 10m Band

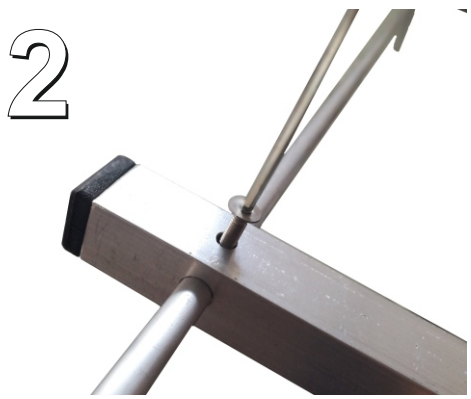
**CARA A** **SIDE A**


**CARA B** **SIDE B**


**CARA C-D** **SIDE C-D**









## ESPAÑOL

El BOOM cuadrado tiene 4 caras, para identificar por que parte del boom ensamblaremos la antena.
Cara A; en esta cara del boom se introducen los tornillos DIN 7991 M4x40 para la sujección de los elementos.
Cara B; la cara opuesta a la A es donde se introduce la tuerca DIN 934 M4 y aprieta con una llave del número 7.
Cara C y D; en estos agujeros van introducidos los elementos.

El montaje de la Eantenna 2850MOX es tan fácil como introducir cada elemento en su correspondiente agujero en el boom (Cara C y D), y con el el tornillo DIN 7991 M4x40roscar sobre el mismo elemento (CARA A). Para reforzar el elemento al boom, se añade una tuerca M4 DIN 934 que con una llave de vaso o tubo del número 7 se aprieta fácilmente (CARA B)

## ENGLISH

The square BOOM has 4 sides, to identify by which part of the boom we will assemble the antenna.
**Side A**; On this side of the boom the screws DIN 7991 M4x40 are inserted for fastening the elements.
**Side B**; the side opposite to the A is where the nut DIN 934 M4 is installed.
**Side C and D**; in these holes the elements are inserted.

The assembly of the Eantenna 2850MOX is as easy as inserting each element in its corresponding hole in the boom (**SIDE C and D**), and with a screw DIN 7991 M4x40 thread on the same element (**SIDE A**). In addition, an M4 nut is added, which ensures that the element does not get loose. (**SIDE B**)

# 6m Band

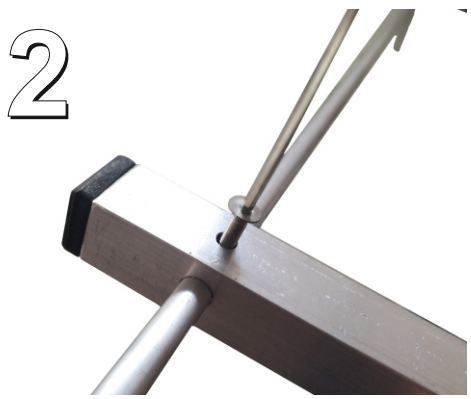
**CARA A** **SIDE A**


**CARA B** **SIDE B**


**CARA C-D** **SIDE C-D**





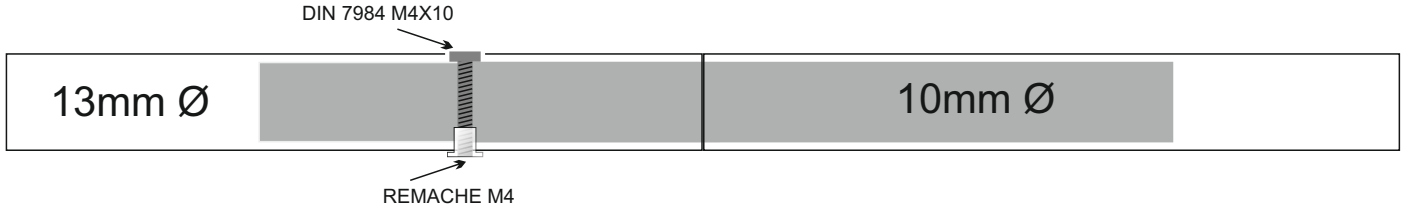




# 50 MHz.

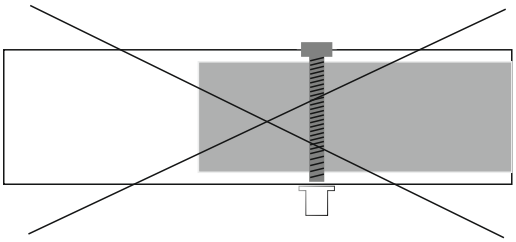
**ESPAÑOL**

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 **quedar alojada dentro** del **hueco de mas diámetro del elemento**.

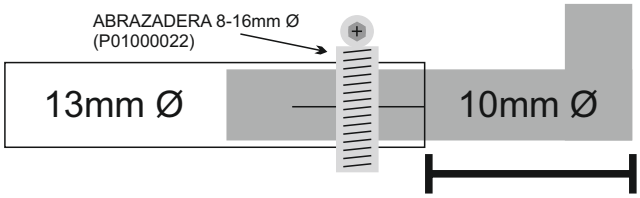



**SI**

**NO**



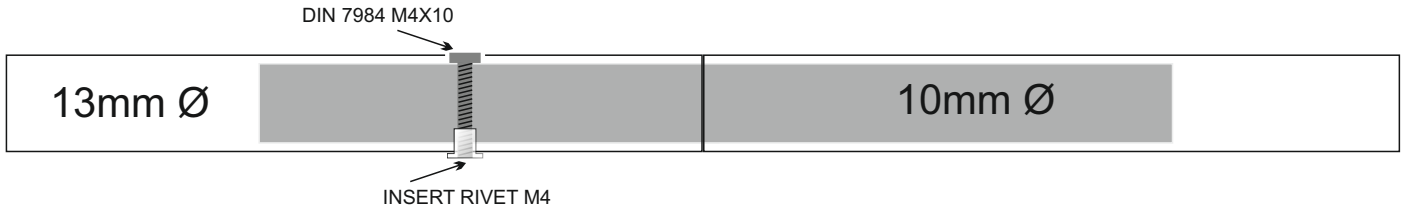
La fijación de los elementos del Rectangulo DE, es mediante abrazadera **Sin/Fin 8-12mm (P0100022)** de los elementos de 13 a 10mm.




110mm

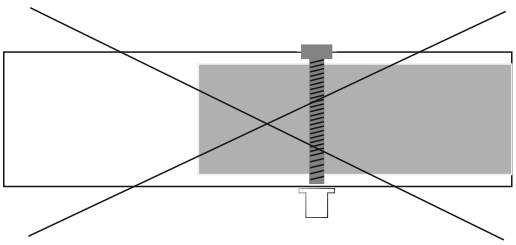
**ENGLISH**

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.**

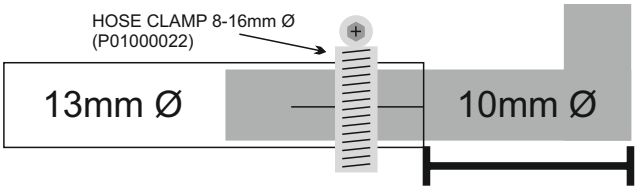



**YES**

**NO**



**The fixing of the LOOP element, each element is using a Hose Clamp 8-12mm (P0100022) the 13 to 10mm diameter.**

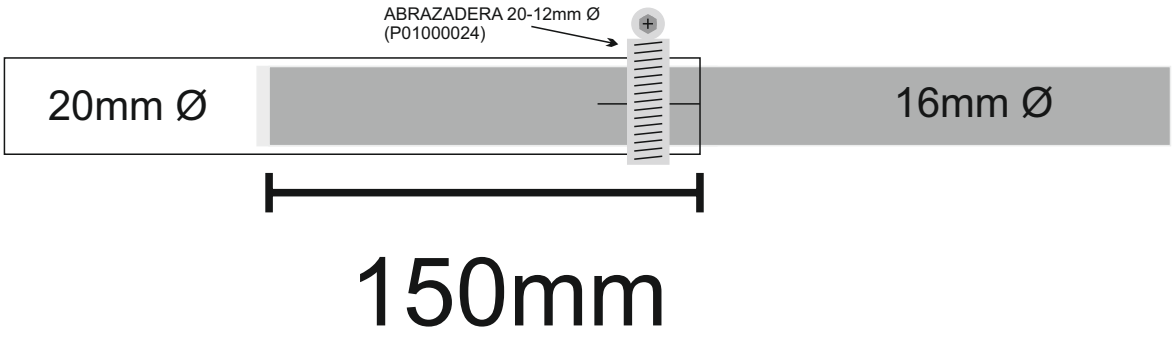



110mm

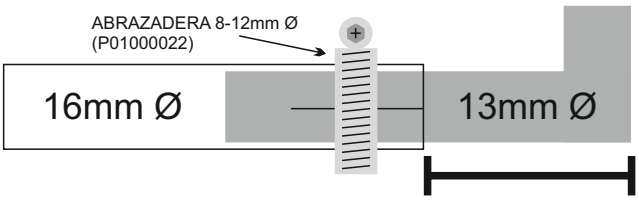
# 28 MHz.

**ESPAÑOL**

Fijar el tubo de 16mm dentro del de 20mm con la abrazadera 20-12mm (P0100024) y el elemento de 16mm al loop de 13mm para ajustar la ROE con las abrazaderas 8-12mm (P0100022).



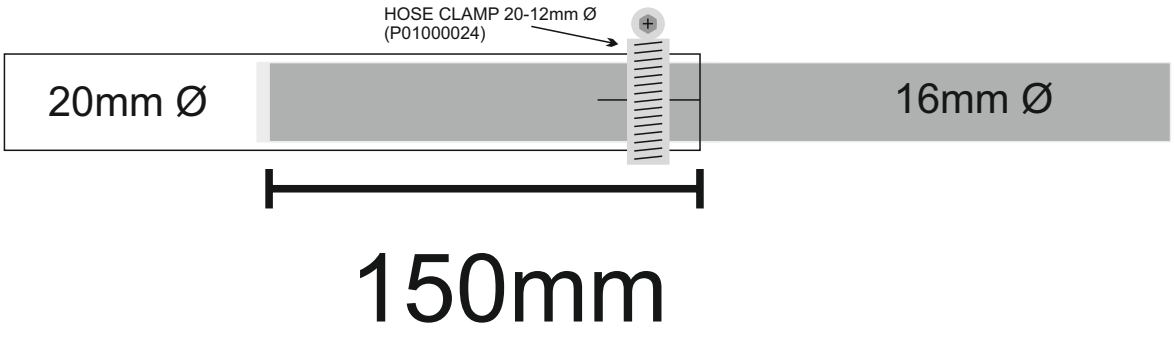

150mm



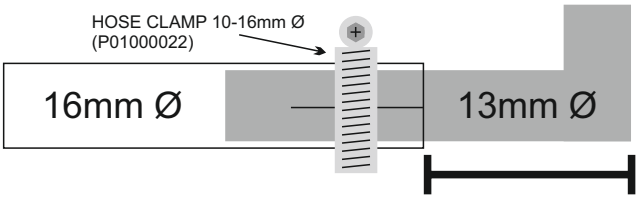

40mm

**ENGLISH**

Fix the 16mm element into the 20mm tube with hose clamp 20-12mm (P0100024) and at each corner of the 16 to 13mm diameter tubes. 8-12mm (P0100022) hose clamps hold the loop end in place and allow for adjustment (SWR).




150mm

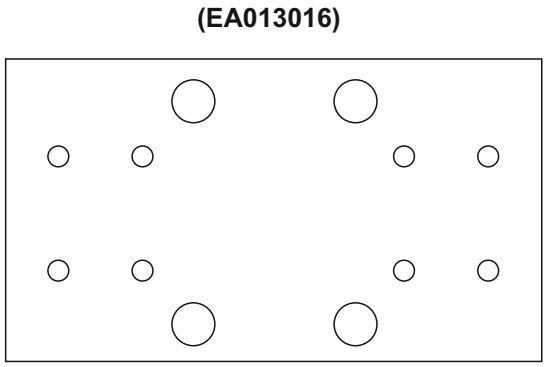


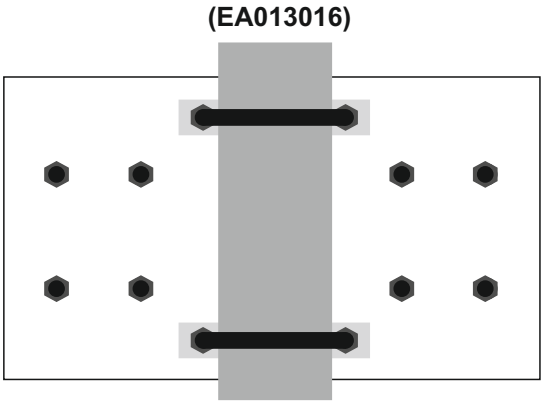

40mm

## PLACAS SUJECIÓN MÁSTIL

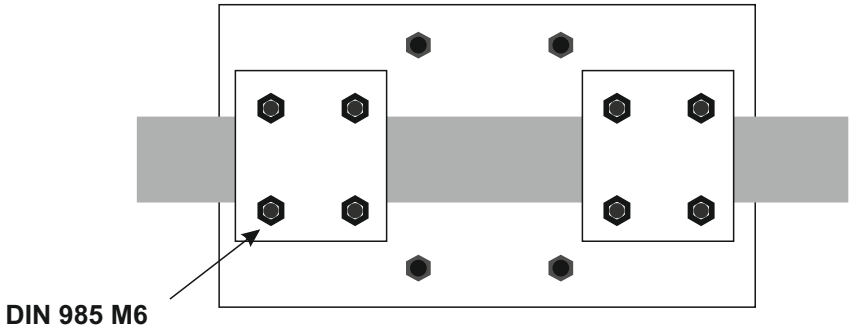
**ESPAÑOL**

La **placa** de sujeción **BOOM/MÁSTIL (EA013016)** de 250X100X6mm consta de **12 agujeros**; **4 gruesos** para los **abarcones redondos y 8 para** las pletinas (**EA010083**) 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:

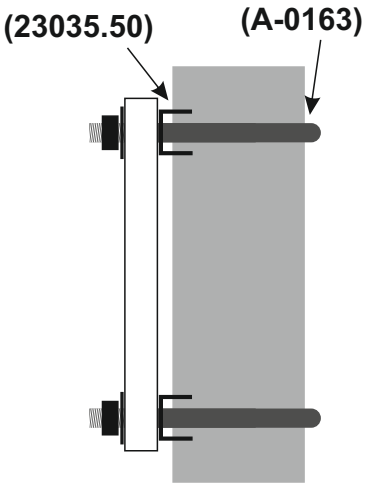


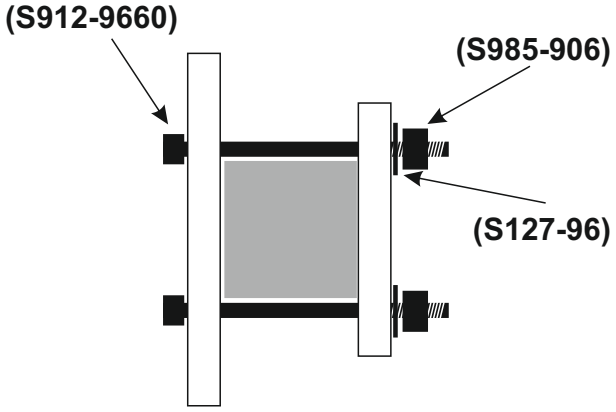

**Vista frontal desde el mástil**




**Vista frontal desde el BOOM**




**Vista lateral desde el mástil**

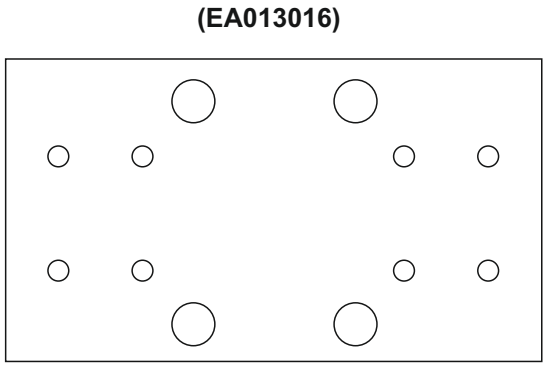


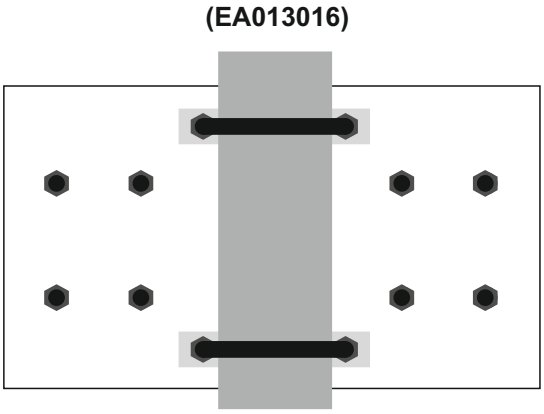

**Vista lateral desde el BOOM**

## MAST TO BOOM PLATE ASSEMBLY

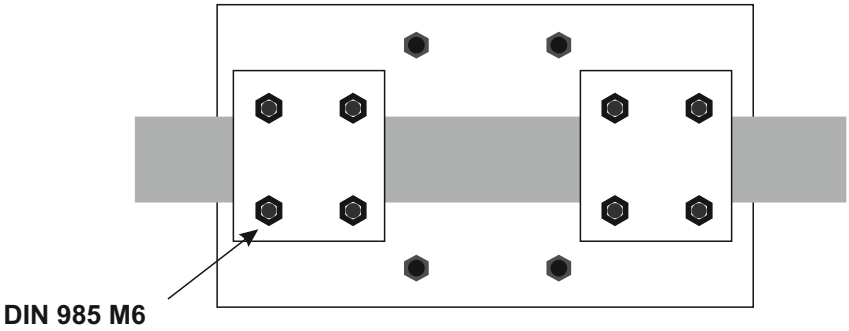
**ENGLISH**

The clamping plate **BOOM / MAST (EA013016)** 250X100X6mm consists of **12 holes**; **4 thick for round U-bolts** and **8 small holes to joint the (EA010083) 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 U-bolt, and fixed to the mast with clamp **(23035.50)**.
Detailed drawings for further illustration:

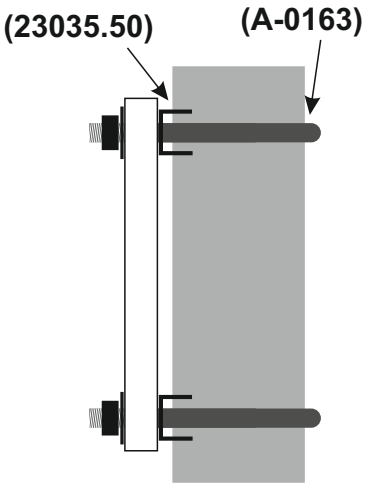


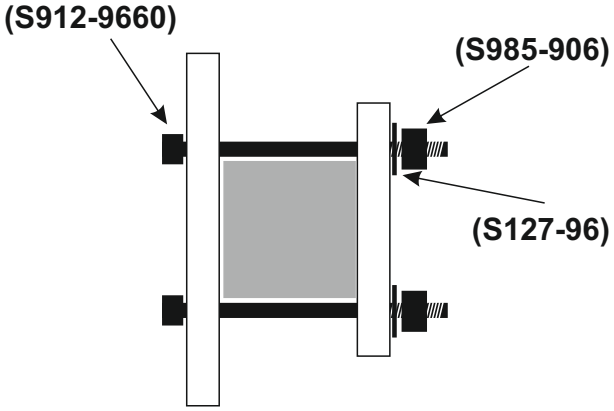

**Front view from Mast**




**Front view from BOOM**



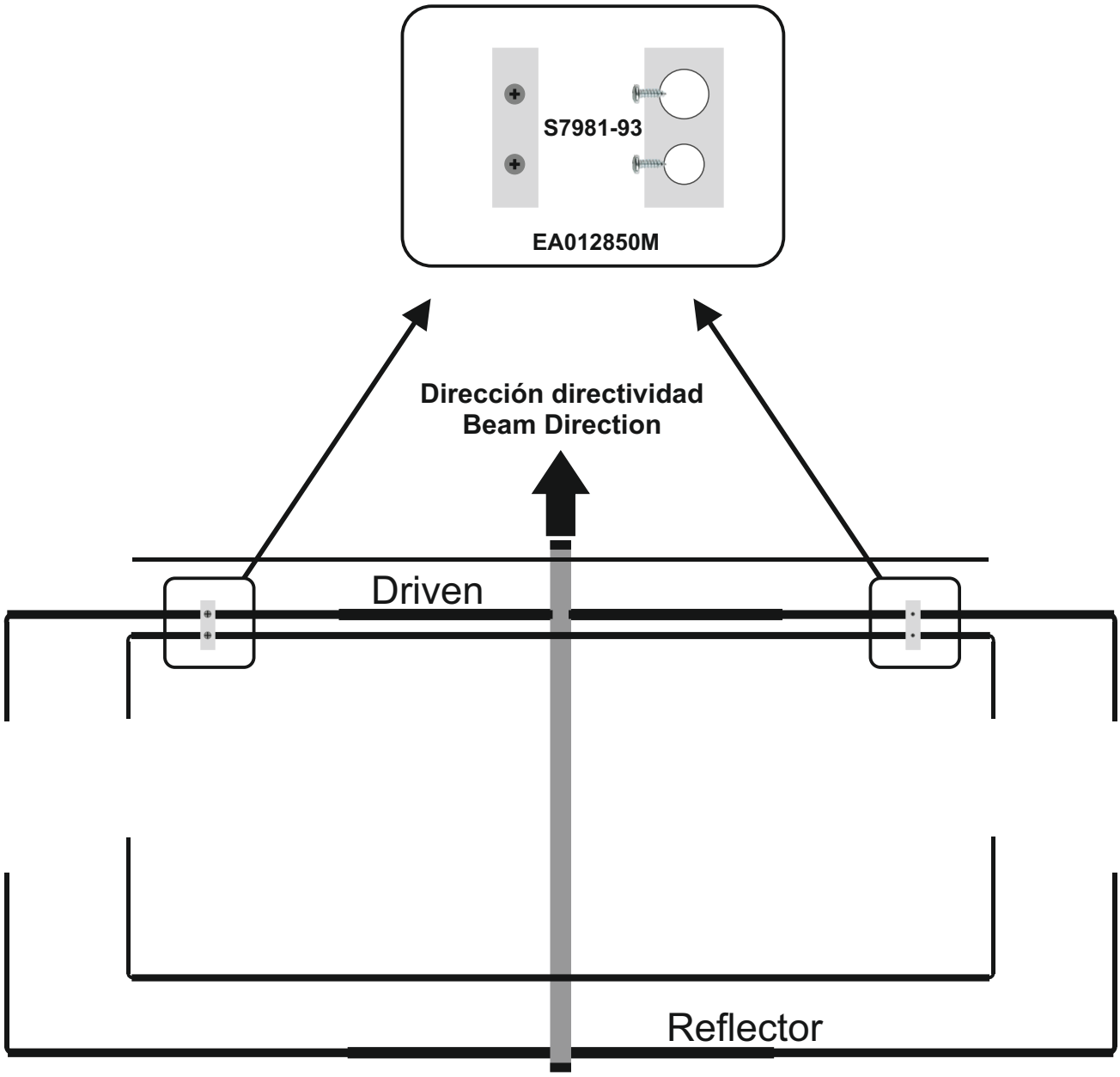

**Side view from Mast**




**Side view from BOOM**

**Montaje correcto:**
**Correct positions:**

**ESPAÑOL**




**Alimentación mediante coaxial:**

**Solo alimentamos el elemento de 10m. mediante el Balun descrito en la pagina siguiente :**


**ENGLISH**

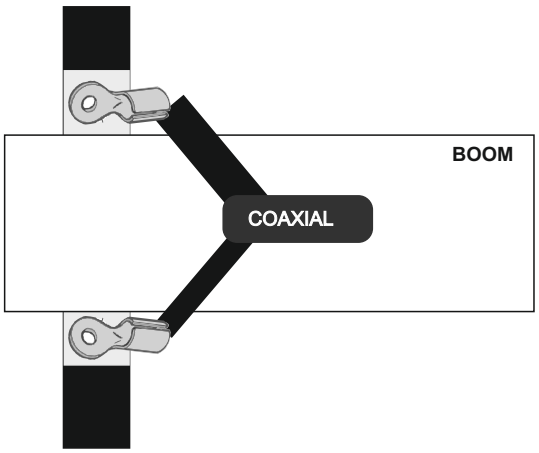
**In this antenna, you only may connect the coax thru the balun to the 10m band element.**

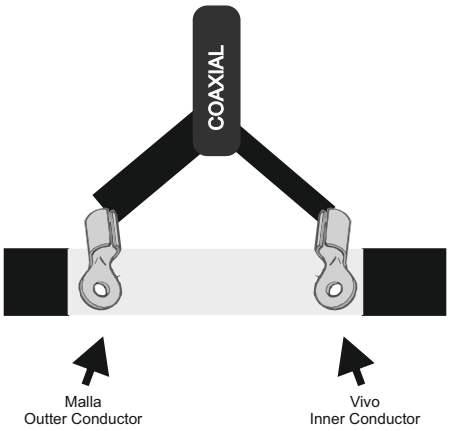
# ESPAÑOL

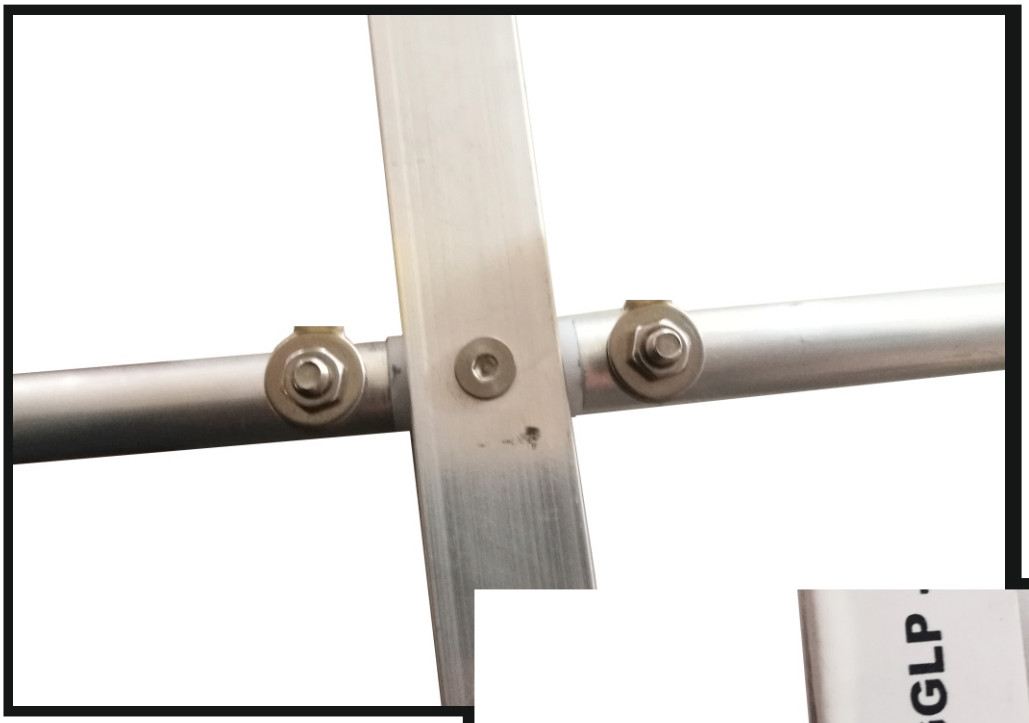
El elemento de más grosor o DRIVEN viene pre-ensamblado, pero para su montaje en el BOOM debe de quitar una parte de la alimentación, para introducir la parte aislante del DRIVEN y esta mediante el agujero que trae, es donde debe de fijarse al boom como se explica anteriormente.

# ENGLISH

The DRIVEN ELEMENT comes pre-assembled, but for its assembly into the boom, one side has to be removed. Then, put the insulator into the large hole of the boom, fix with screws as explained above and re-install the side tube which was removed before.

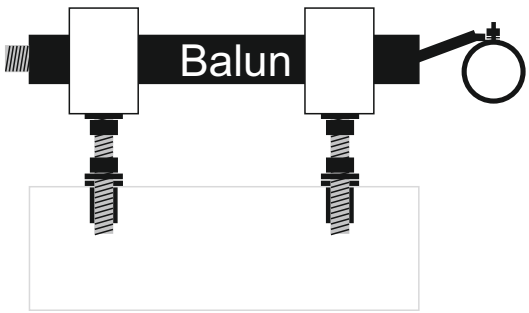


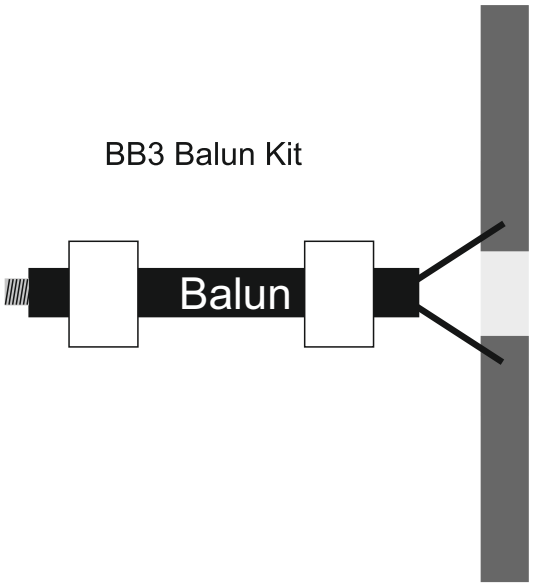



# Alimentación
# Feeding

BB3 Balun Kit




BB3 Balun Kit

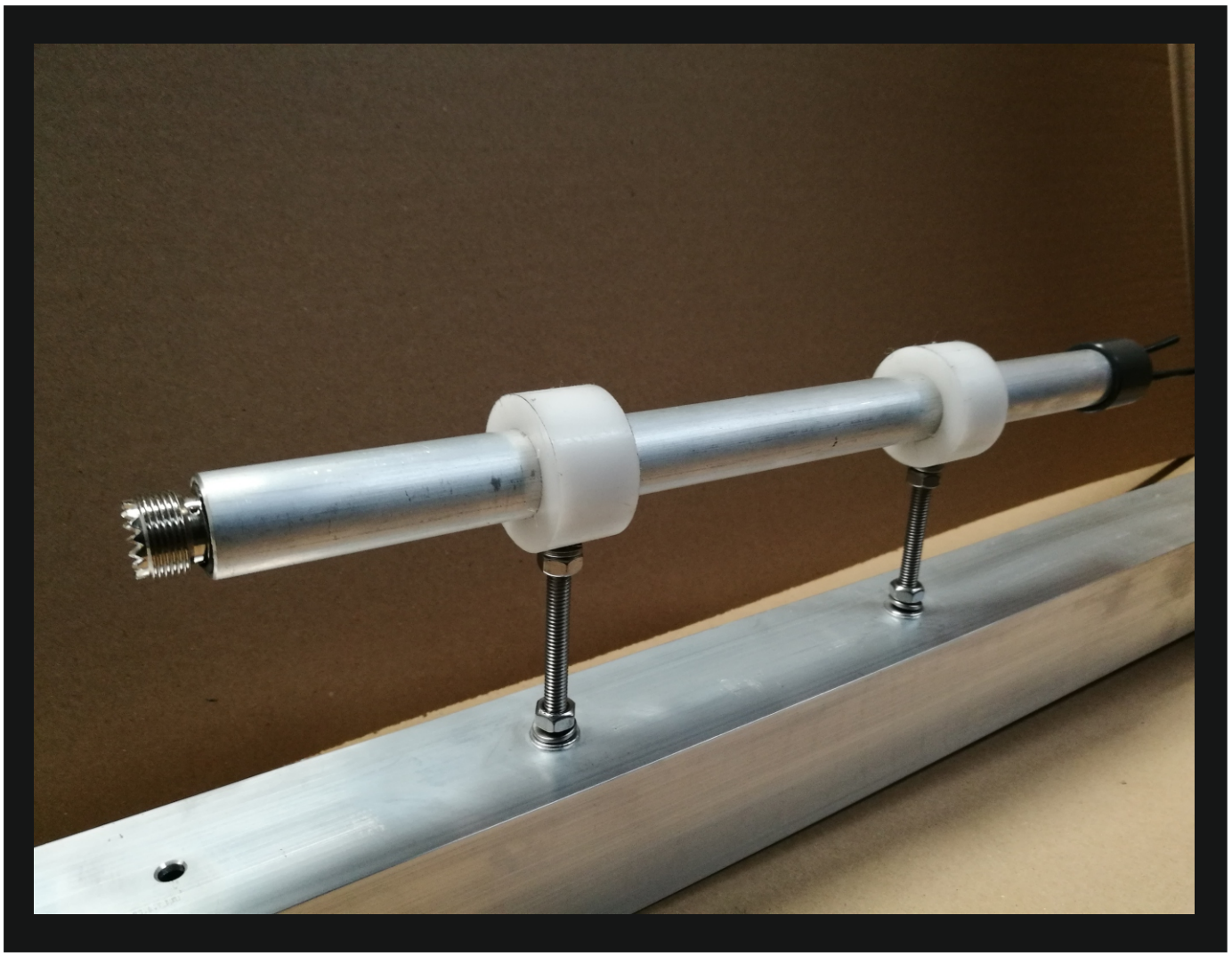



## ESPAÑOL

El primer paso de colocar el balun es roscar el tornillo sobre las roscas de boom para darle estabilidad. No apretrar hasta que no este posicionado el balun correctamente. Cuando el balun este colocado en su posicion definitiva, girar el tornillo con los dedos hasta que el tornillo presione el balun y lo fije a la anilla plastica blanca. Apretar la tuerca con algo de fuerza con la llave fija y acto seguido, apretar las tuercas de la parte que da al boom para fijar completamente este sistema.

## ENGLISH

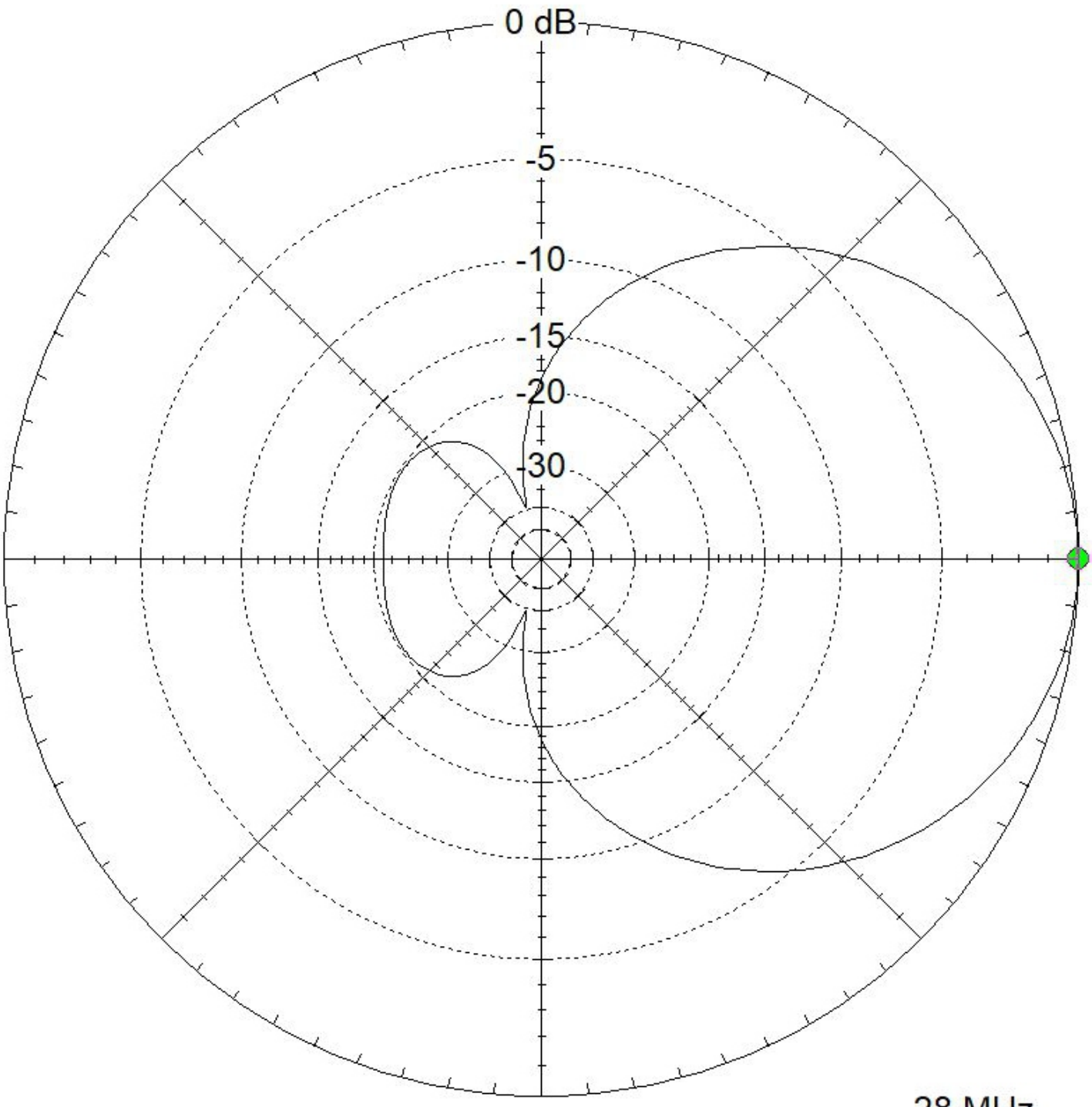
The first step of placing the balun is screwing the screws on the boom. Don’t tightening until the balun not positioned correctly. When the balun is placed in its final position, rotate the screw with your fingers until the screw press the balun and fix it to the white plastic ring. Tighten the nut some strength with a wrench and then, tightening nuts on boom to complete fix this system.



File Edit View Options Reset

# Total Field

EZNEC




28 MHz

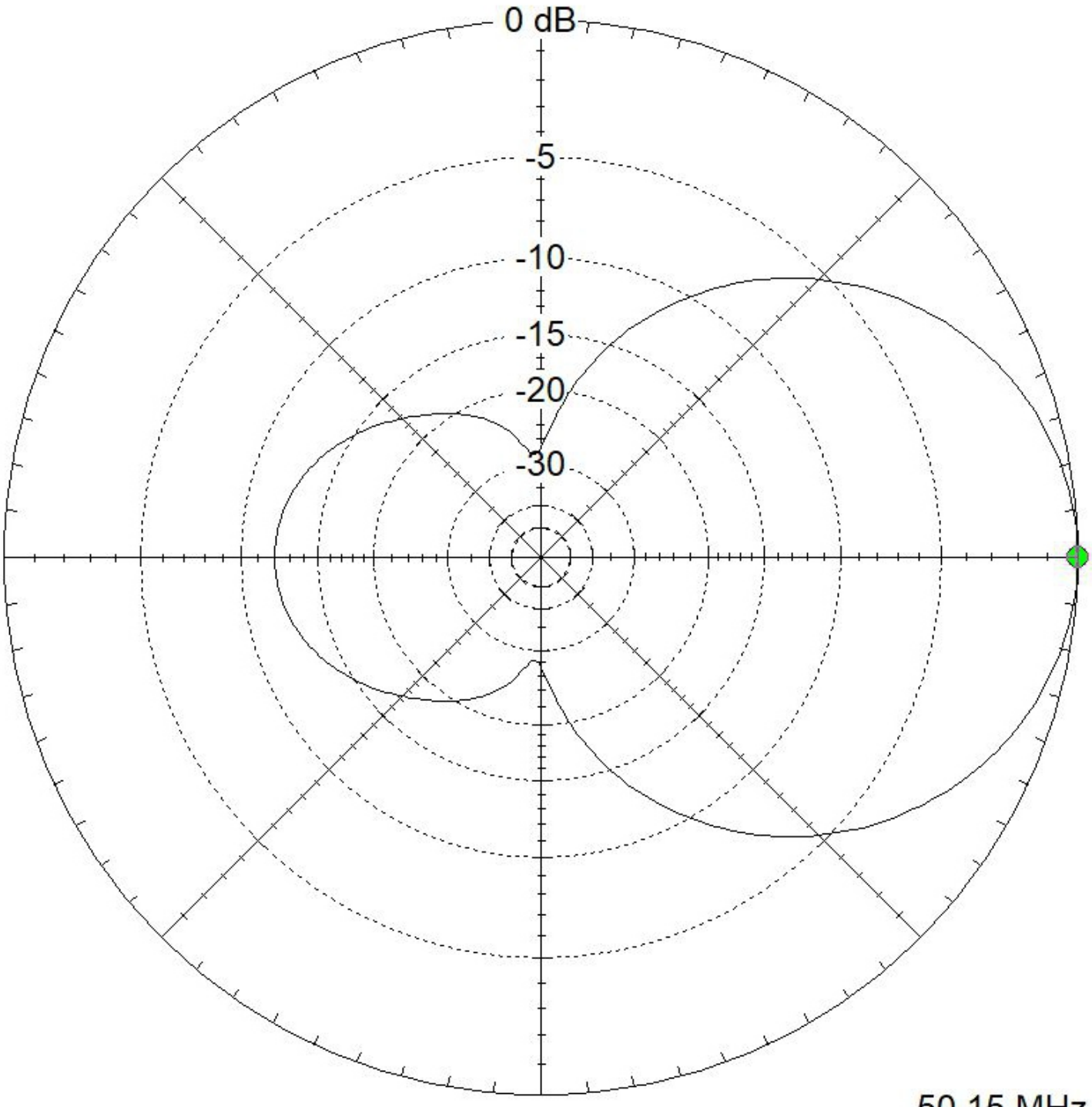
| | |
|---|---|
| Cursor Az | 0,0 deg. |
| Gain | 8,32 dBi |
| | 0,0 dBmax |

| | |
|---|---|
| Azimuth Plot | |
| Elevation Angle | 0,0 deg. |
| Outer Ring | 8,32 dBi |
| | |
| Slice Max Gain | 8,32 dBi @ Az Angle = 0,0 deg. |
| Front/Back | 20,99 dB |
| Beamwidth | 79,4 deg.; -3dB @ 320,3, 39,7 deg. |
| Sidelobe Gain | -11,97 dBi @ Az Angle = 148,0 deg. |
| Front/Sidelobe | 20,29 dB |

File Edit View Options Reset

# Total Field

EZNEC

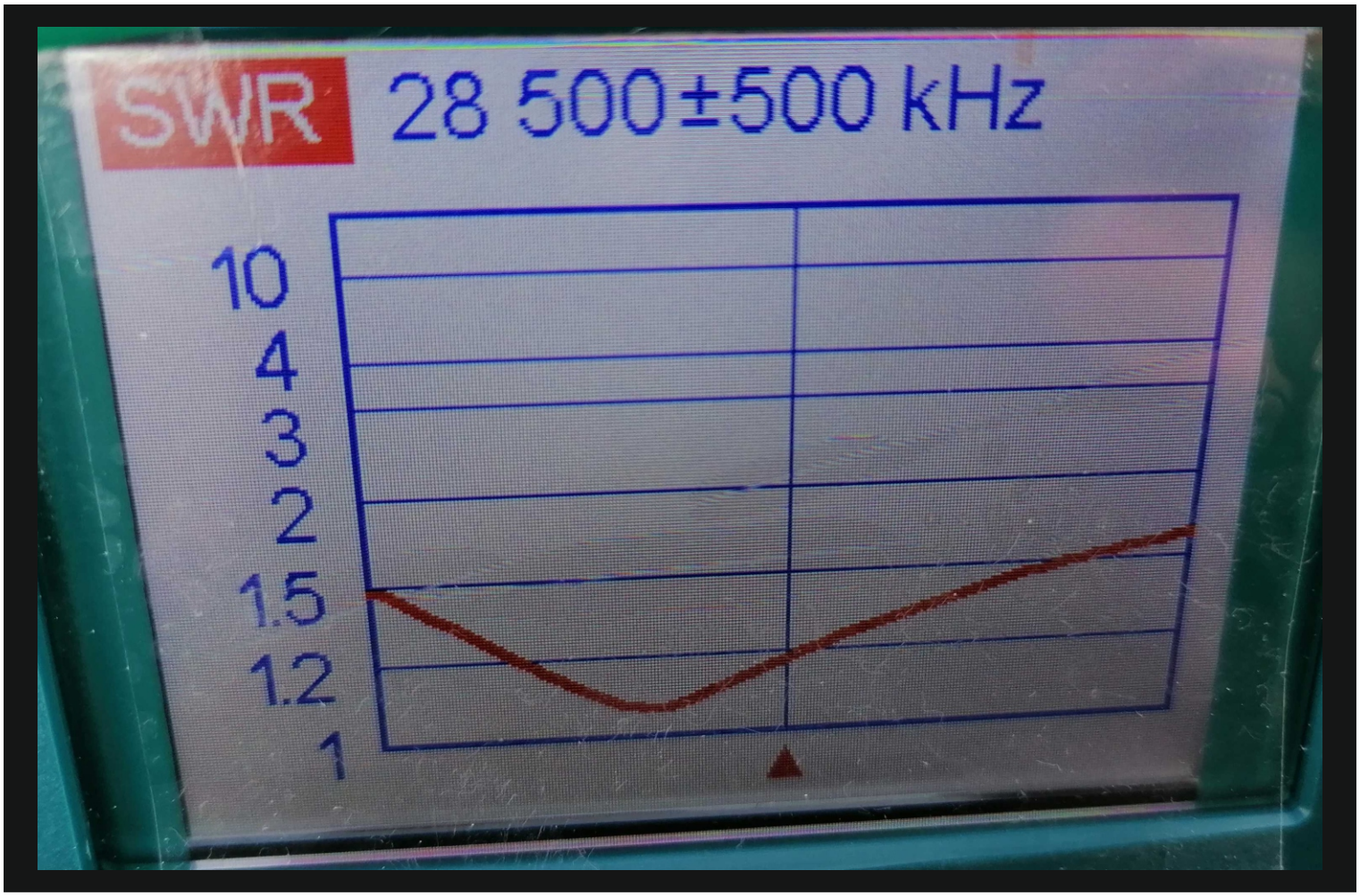


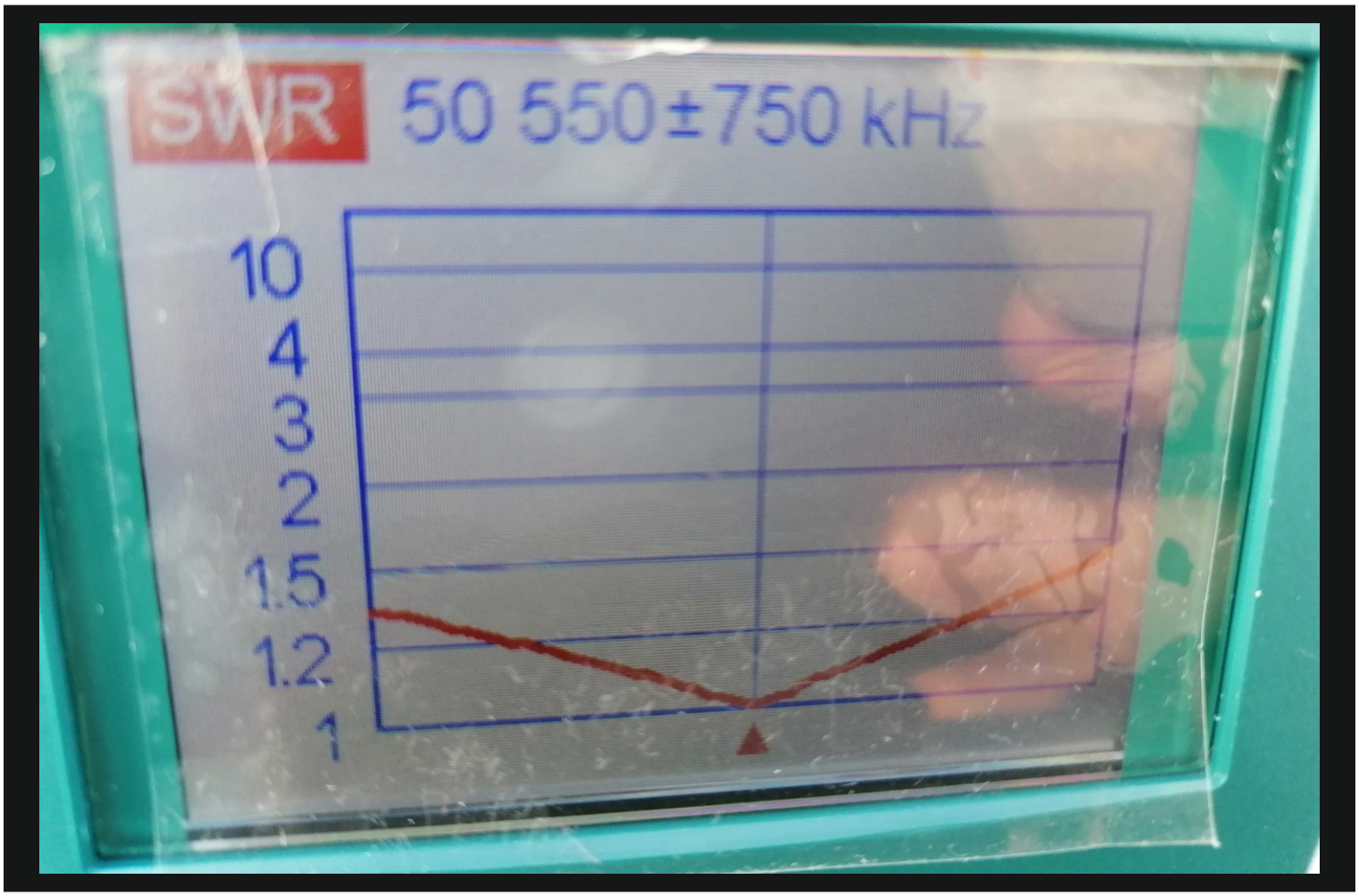

50,15 MHz

Cursor Az 0,0 deg.
Gain 10,52 dBi
0,0 dBmax

Azimuth Plot
Elevation Angle 0,0 deg.
Outer Ring 10,52 dBi

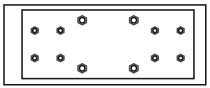
Slice Max Gain 10,52 dBi @ Az Angle = 0,0 deg.
Front/Back 12,02 dB
Beamwidth 67,8 deg.; -3dB @ 326,1, 33,9 deg.
Sidelobe Gain -1,5 dBi @ Az Angle = 180,0 deg.
Front/Sidelobe 12,02 dB


SWR
28 500±500 kHz
10
4
3
2
1.5
1.2
1


SWR
50 550±750 kHz
10
4
3
2
1.5
1.2
1

ENGLISH ESPAÑOL

# BOLSA 1 - BAG #1

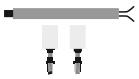
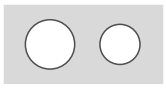
| PART # PIEZA Nº | IMAGEN PART IMAGE | DESCRIPCION DESCRIPTION | MEDIDAS SIZES | CANTIDAD QUANTITY |
|---|---|---|---|---|
| EA013016 |  | Placa Mástil/Boom n1<br>Mast and Boom plate n1 | 250 x 100 x 6mm | 1 |
| EA010083 |  | Placa Mástil/Boom n2<br>Mast and Boom plate n2 | 50 x 60 x 6mm | 2 |
| A-0163 |  | Abarcon<br>U-Bolt. | 50mm, M8 | 2 |
| S127-98 |  | DIN 127 WASHER | M8 | 4 |
| S934-98 |  | DIN 934 NUT | M8 | 4 |
| 23035.50 |  | Mordaza<br>Tube Clamp | 50mm | 2 |
| S912-9660 |  | Tornillo Allen DIN 912<br>Allen DIN 912 Screw | M6x60mm | 8 |
| S9021-96 |  | DIN 9021 | M6 | 8 |
| S985-906 |  | Tuerca Autoblocante DIN 985<br>DIN 985 NUT | M6 | 8 |
| P1300002 |  | Llave Allen 2,5 | 2,5mm | 1 |
| S934-94 |  | DIN 934 | M4 | 5 |
| S7991-9440 |  | Tornillo DIN 7991<br>DIN 7991 Screw | 40x4mm | 5 |

# BOLSA 2 - BAG #2

| PART # PIEZA Nº | IMAGEN PART IMAGE | DESCRIPCION DESCRIPTION | MEDIDAS SIZES | CANTIDAD QUANTITY |
|---|---|---|---|---|
| P0100024 |  | Abrazadera Sin-Fin<br>Hose clamp | 12-20mm | 4 |
| P0100033 |  | Abrazadera Sin-Fin<br>Hose clamp | 10-16mm | 4 |
| P0100022 |  | Abrazadera Sin-Fin<br>Hose clamp | 8-12mm | 4 |

ESPAÑOL ENGLISH

# BOLSA 3 - BAG #3

| PART # PIEZA Nº | IMAGEN PART IMAGE | DESCRIPCION DESCRIPTION | MEDIDAS SIZES | CANTIDAD QUANTITY |
|---|---|---|---|---|
| EA0120010 |  | Pieza unión elementos<br>Join elements part | 200m x 10mm Ø | 6 |
| S7984-9410 |  | DIN 7984 | M4x10mm | 12 |
| RIVSS_M4 |  | Remache M4<br>M4 Rivnut | M4 | 12 |
| EA01BALKI |  | BALUN + KIT | 3kW BALUN | 1 |
| EA012850M |  | ELEMENTS SPREADERS | 71,5x25mm | 2 |
| S914-96.8 |  | Allen bolt | M6x8mm | 4 |

**PACKING LIST**
**LISTA DE PIEZAS**

| PART # PIEZA Nº | IMAGEN PART IMAGE | DESCRIPCION DESCRIPTION | MEDIDAS SIZES | CANTIDAD QUANTITY |
|---|---|---|---|---|
| 2850MOX BOOM |  | Boom | 1800mm x 40mm | 1 |
| |  | Parte Central Reflector 10m<br>Reflector Middle tube 10m | 1800mm x 20mm Ø | 1 |
| |  | Parte Central Exitado<br>DRIVEN Middle tube | 1800mm x 20mm Ø | 1 |
| |  | Reflector y exitado Banda 10m 16mm<br>Driven and Reflector 10m band 16mm | 1080mm x 16mm Ø | 4 |
| |  | Parte Central 6m<br>Middle tube 6m | 900mm x 13mm Ø | 3 |
| |  | Tubos de extremos 6m Exitado y Reflector<br>End tips 6m band for Reflector and Driven | 700mm x 13mm Ø | 4 |
| |  | Tubos de extremos 6m D1<br>End tips 6m band for D1 | 940mm x 13mm Ø | 2 |
| |  | 10m. Sección Tubo 13mm<br>10m. 13mm Tube section | 1489mm x 13mm Ø | 2 |
| |  | 6m. Sección Tubo 10mm<br>6m. 10mm Tube section | 740mm x 10mm Ø | 2 |