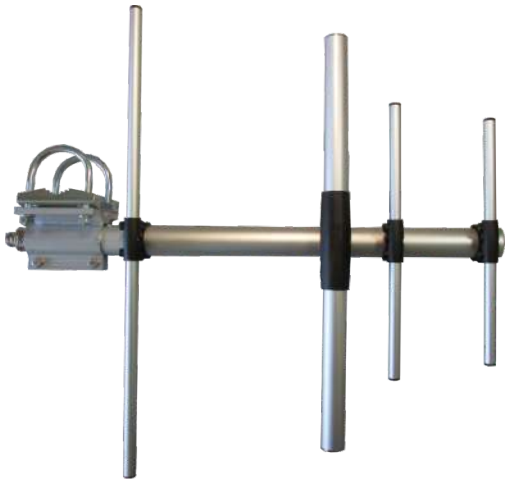
WY 300-4N 300-500 MHz

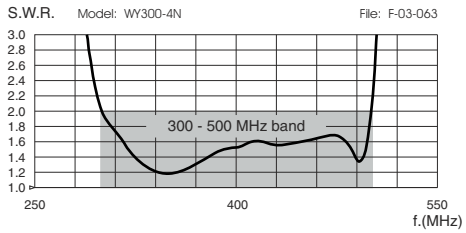
UHF Base Station 4 Elements Yagi Antenna

DESCRIPTION: Base station antenna using an innovative feed system conceived and applied to have high symmetrical radiation pattern in both planes (E and H). It's completely computer designed to get high performances and a **wide bandwidth (no tuning is required)**. All aluminium parts are protected by anodized treatment, hardware are of Stainless steel or zinc plated steel, mounting bracket is of extruded aluminium for the best strength. The connector is placed in rear position for an easily access and protected by a black rubber cap suitable for 5÷7mm cables. To increase the antenna gain please install it in vertical stacked array.
This product is Patented.



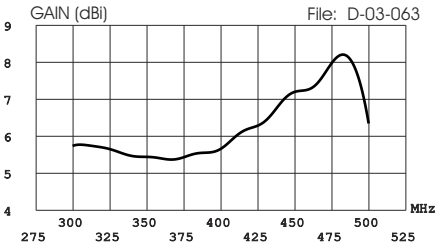
Electrical Data	WY 300-4N
Type	4 elements Yagi
Frequency Range @ SWR ≤ 2	300 - 500 MHz
Impedance	50 Ω
Radiation (H-plane) beamwidth @ -3 dB	150° @400MHz
Radiation (E-plane) beamwidth @ -3 dB	68° @400MHz
Front to back ratio	≥ 9 dB
Polarization	Linear Vertical or Horizontal
Max Gain	5.85 dBd - 8 dBi
Max Power (CW) @ 30°C	150 Watts
Grounding Protection	All metal parts are DC-grounded, the inner conductor shows a DC short
Connector	N-female with rubber protection cap

TYPICAL S.W.R. RESPONSE

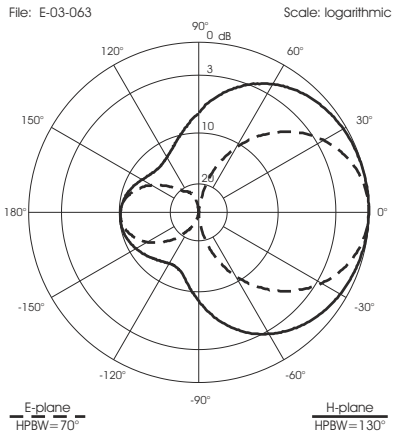


Mechanical Data	
Materials	Anodized 6063-T5 Aluminium, EPDM rubber, thermoplastic UV stabilized, Chromed Brass
Wind Load @ 150 km/h	60 N
Wind Resistance	180 Km/h; 112 mi/h
Wind Surface	0.048 m^2; 0.51 ft^2
Dimensions W x H (approx.)	600 x 480 mm; 2 x 1.57 ft
Turning radius (approx.)	470 mm; 1.54 ft
Weight (approx.)	1300 gr; 2.87 lb
Operating temperature	-40° C to +60° C
Mounting Mast	∅ 35 - 52 mm; ∅ 1.4 - 2.0 in
Boom / Dipole / Element Diameter	∅ 32 mm; 1.3 in / ∅ 24 mm; 0.95 in / ∅ 12 mm; 0.5 in

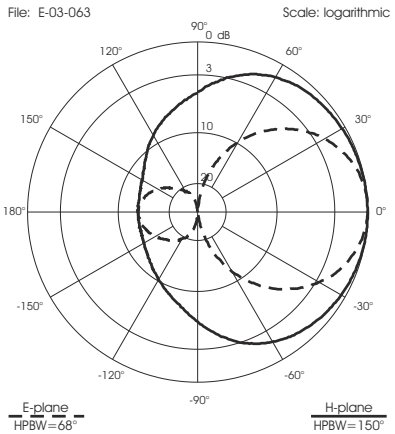
TYPICAL GAIN DIAGRAM vs FREQUENCY



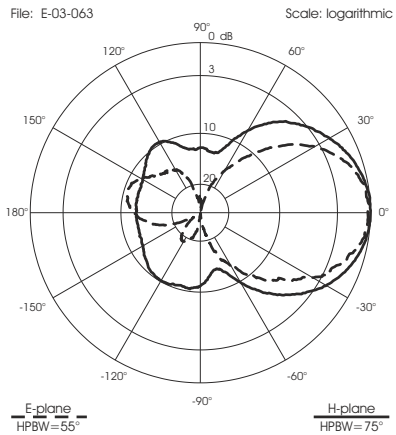
TYPICAL RADIATION PATTERN at 300 MHz



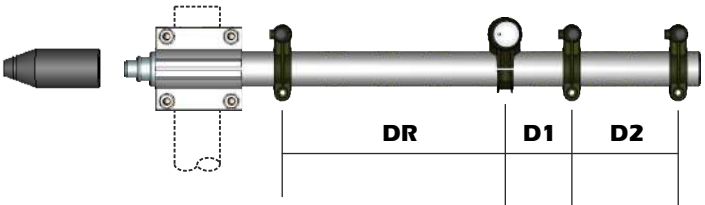
TYPICAL RADIATION PATTERN at 400 MHz



TYPICAL RADIATION PATTERN at 500 MHz

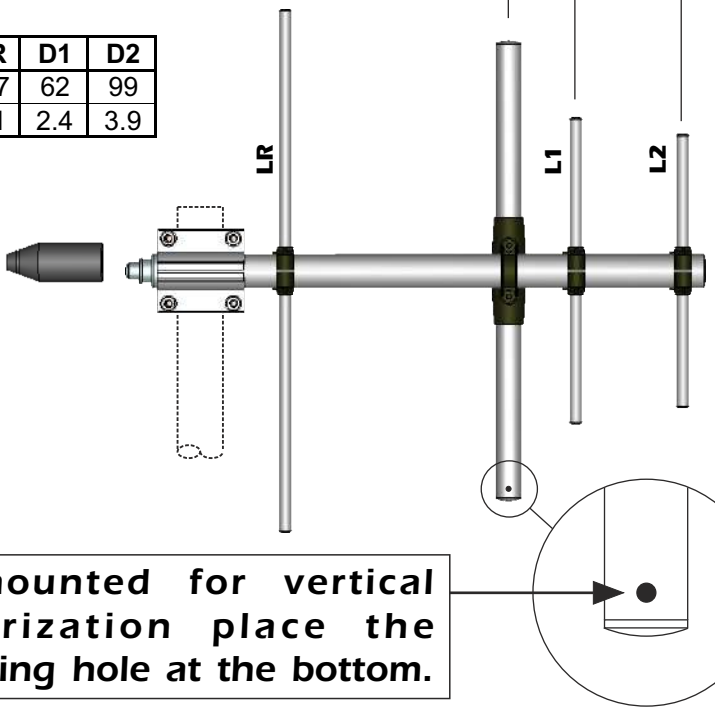


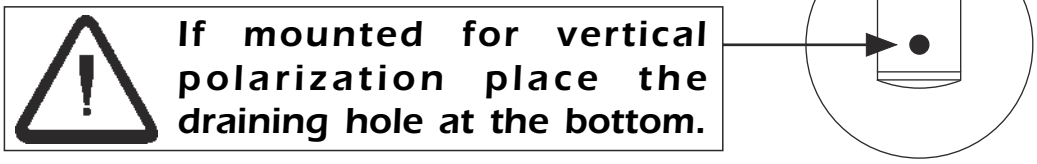
Correct mounting for horizontal polarization



		LR	L1	L2	DR	D1	D2
WY 300-4N	(mm)	480	280	250	207	62	99
	(in)	18.9	11	9.8	8.1	2.4	3.9

Correct mounting for vertical polarization





If mounted for vertical polarization place the draining hole at the bottom.

Element Mounting

1) By means of a meter measure the aluminium elements **A** and position them in the plastic support **B** of the boom according to **fig.1**.

2) Place the reference marker of the aluminium element **A** in the centre of the plastic support **B** (see **fig. 3**) and lock the screws **C** by the supplied key **D** (**fig. 4**). When the screws touch the aluminium tubes you can finally lock them turning for 1.5 turns.

Warning: do not exceed 1.5 turns. The plastic support threads could be damaged.

3) Insert the plastic caps **E** on the aluminium elements **A** (see **fig. 4**)

Part list	
Q.ty	*Description*
1	**A**) Aluminum tubes
2	**C**) M5x6 Hexagon socket set screw
1	**D**) 2.5mm Hexagonal key
2	**E**) Plastic cap

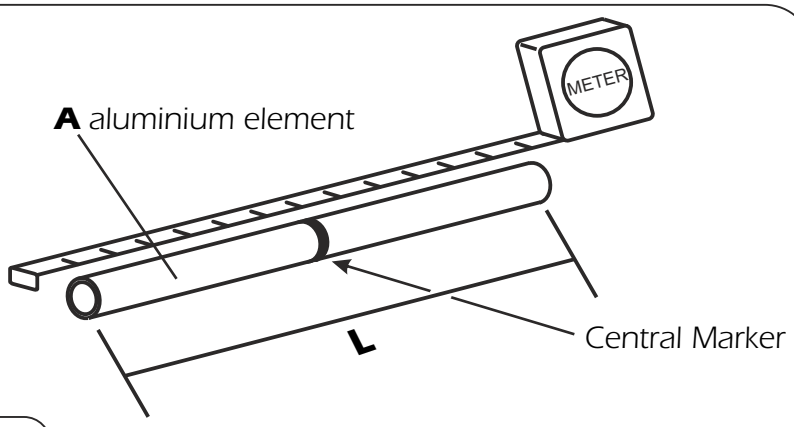


Fig.2

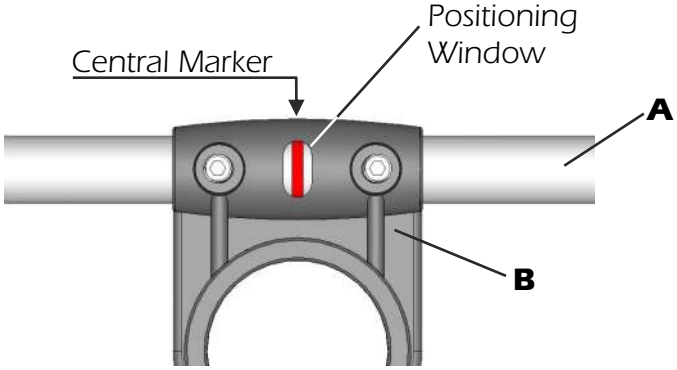


Fig.3

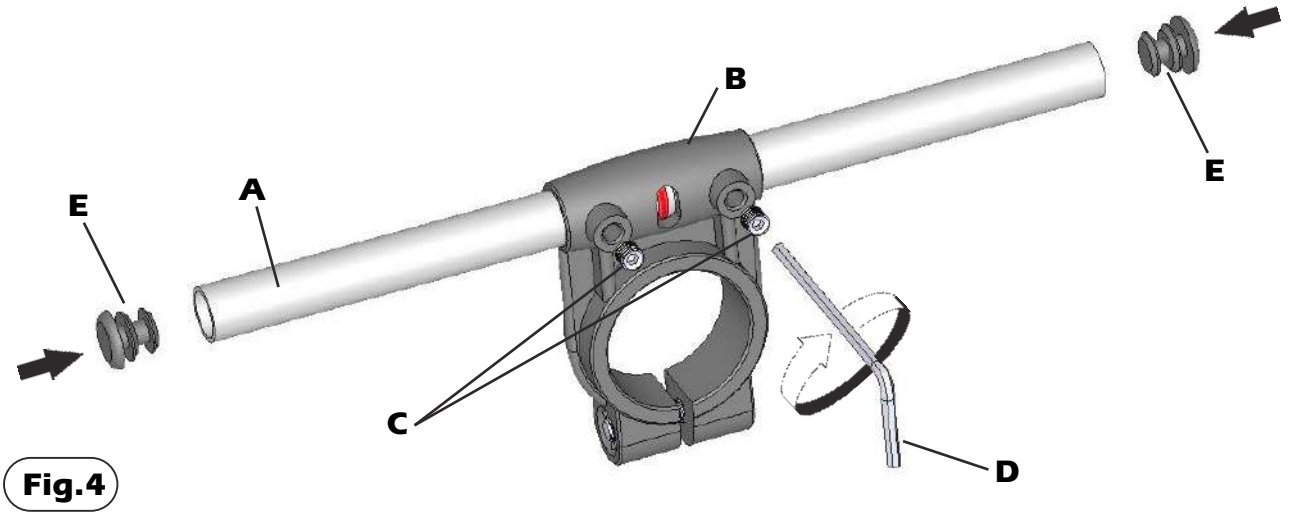


Fig.4

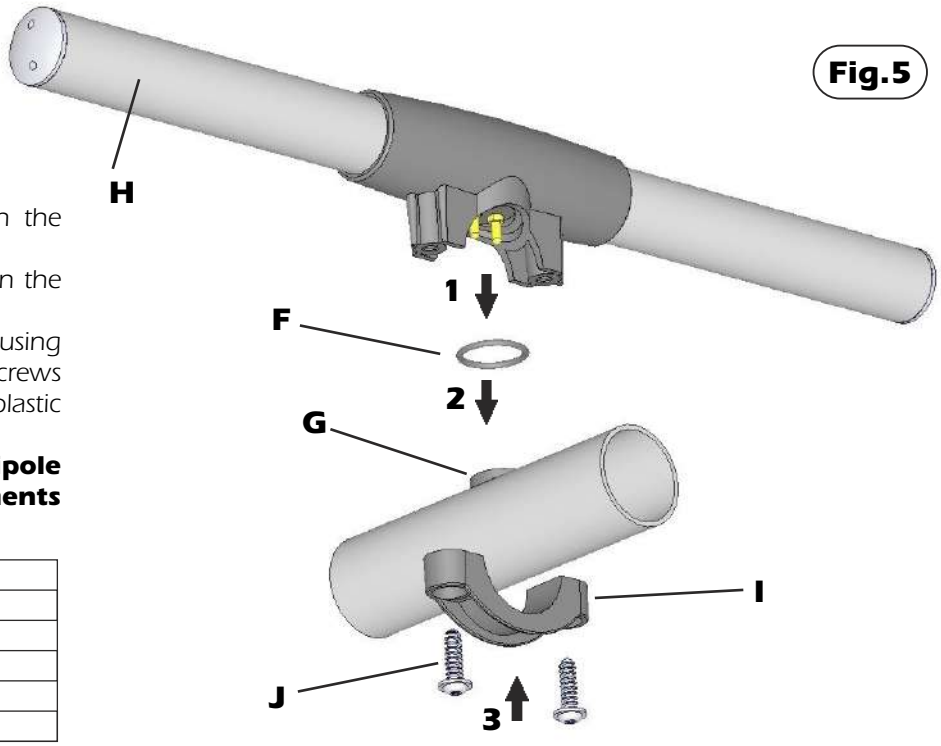


Fig.5

Dipole mounting

1) Place the O-ring gasket **F** on the dipole connector **G**. (See **Fig.5**)
2) Insert the antenna's dipole **H** in the dipole connector **G**
3) Fix the antenna's dipole **H** by using the palstic fixing clamp **I** and the screws **J**. Lock the screws to well fix the plastic parts to avoid any gap (see **Fig.6**)
Remark: the antenna's dipole must be aligned to the elements

Part list	
Q.ty	*Description*
1	**F**) O-ring gasket
1	**H**) Antenna's dipole
1	**I**) Plastic fixing clamp
2	**J**) Tapping Screws for plastic

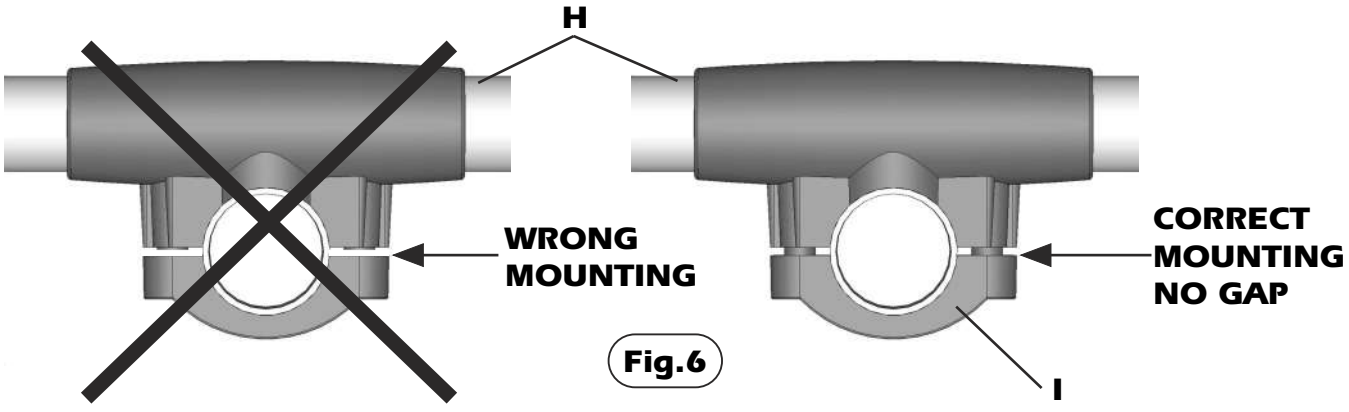
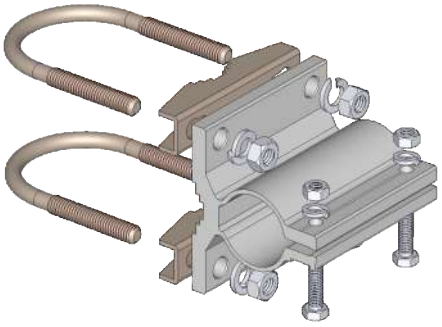


Fig.6

MOUNTING INSTRUCTIONS

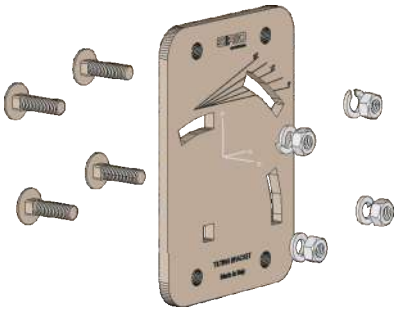
Standard Mounting Bracket



Spare parts: p/n SA197
Materials: extruded aluminum
Hardware: stainless & zinc plated steel
Dimensions : 80 x 76 x 65 mm
Weight: 460 gr

Part list	
Q.ty	*Description*
1	Extruded aluminium bracket
2	Steel bracket
2	M8x200 U-bolt
4	M8 Grower washer
4	M8 Hexagonal nut
2	M6x20 Hexagonal head screw
2	M6 Grower washer
2	M6 Hexagonal nut

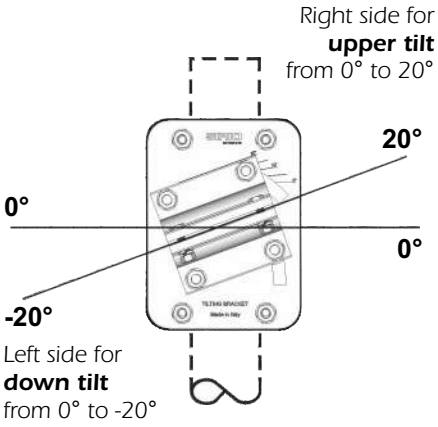
Tilting Bracket*



Order p/n: 2519803.00
Materials & Hardware: zinc plated steel
Dimensions: 110 x 150 x 6 mm.
Weight: 800 gr

Part list	
Q.ty	*Description*
1	10x150x6 Tilting bracket
4	M8x25 Spheric head screw
4	M8 Grower washer
4	M8 Hexagonal nut

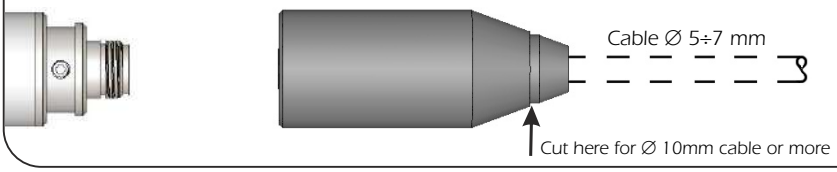
Mounting example



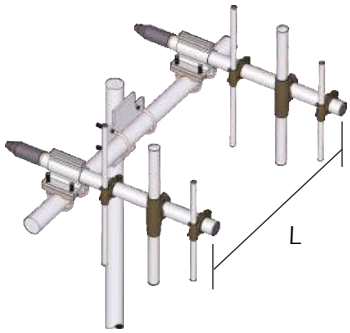
*** Optional (not included).**

Connector protection cap

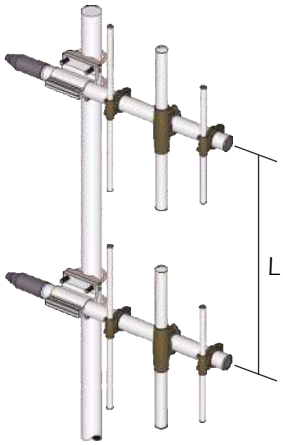
Spare parts: p/n TE06416



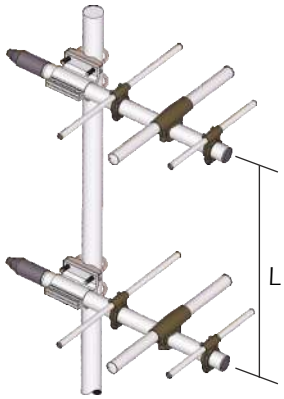
Stacking and Baying distance



Vertical polarization
(Bayed)
L= 470 mm; 18.5 in



Vertical polarization
(Stacked)
L= 670 mm; 26.3 in



Horizontal polarization
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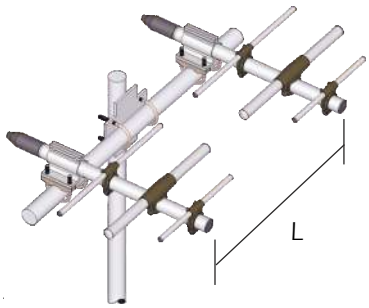

Horizontal polarization
(Bayed)
L= 670 mm; 26.3 in

SIRIO antenne HI-QUALITY ANTENNAS MADE IN ITALY