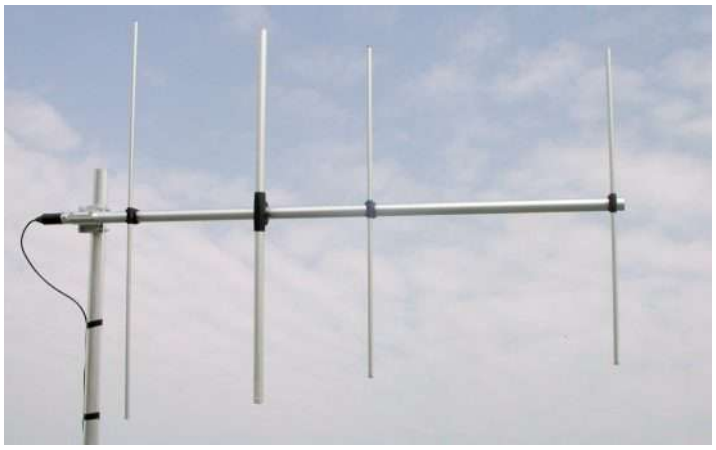
WY 136-4N

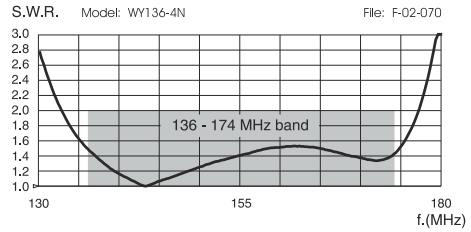
VHF Base Station 4 Elements Yagi Antenna 136-174 MHz

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.

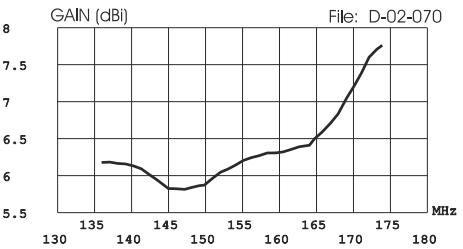


Electrical Data	WY 136-4N
Type	4 elements Yagi
Frequency Range @ SWR ≤ 2.0	136 - 174 MHz
Impedance	50 Ω
Radiation (H-plane) beamwidth @ -3 dB	116°
Radiation (E-plane) beamwidth @ -3 dB	65°
Front to back ratio	≥ 10 dB
Polarization	Linear Vertical or Horizontal
Gain	5.35 dBd - 7.5 dBi
Max Power (CW) @ 30°C	200 Watts
Grounding Protection	All metal parts are DC-grounded, the inner conductor shows a DC short
Connector	N-female with rubber protection cap
Mechanical Data	
Materials	Anodized 6063-T5 Aluminium, EPDM rubber, thermoplastic UV stabilized, Chromed Brass
Wind Load @ 150 km/h	147 N
Wind Resistance	140 Km/h; 87 mi/h
Wind Surface	0.119 m^2; 1.27 ft^2
Dimensions W x H (approx.)	1600 x 1120 mm; 5.2 x 3.7 ft
Turning radius (approx.)	1540 mm; 5.05 ft
Weight (approx.)	2070 gr; 4.5 lb
Operating temperature	-40° C to +60° C
Mounting Mast	∅ 35 - 52 mm; 1.4 - 2.1 in
Boom / Dipole / Element Diameter	∅ 32 mm; 1.25 in / ∅ 24 mm; 0.95 in / ∅ 12 mm; 0.5 in

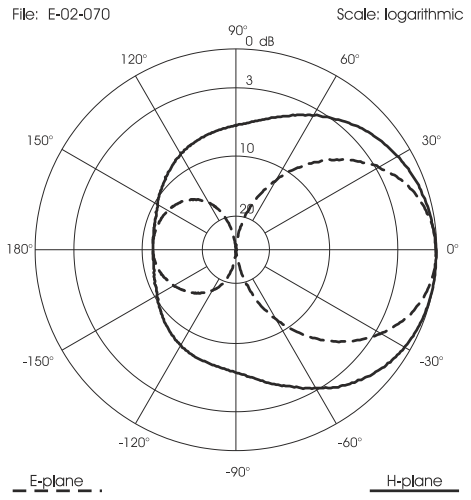
TYPICAL S.W.R. RESPONSE

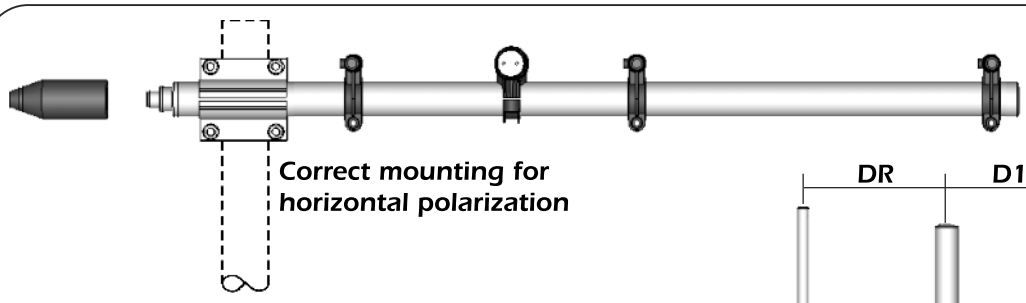


TYPICAL GAIN DIAGRAM vs FREQUENCY

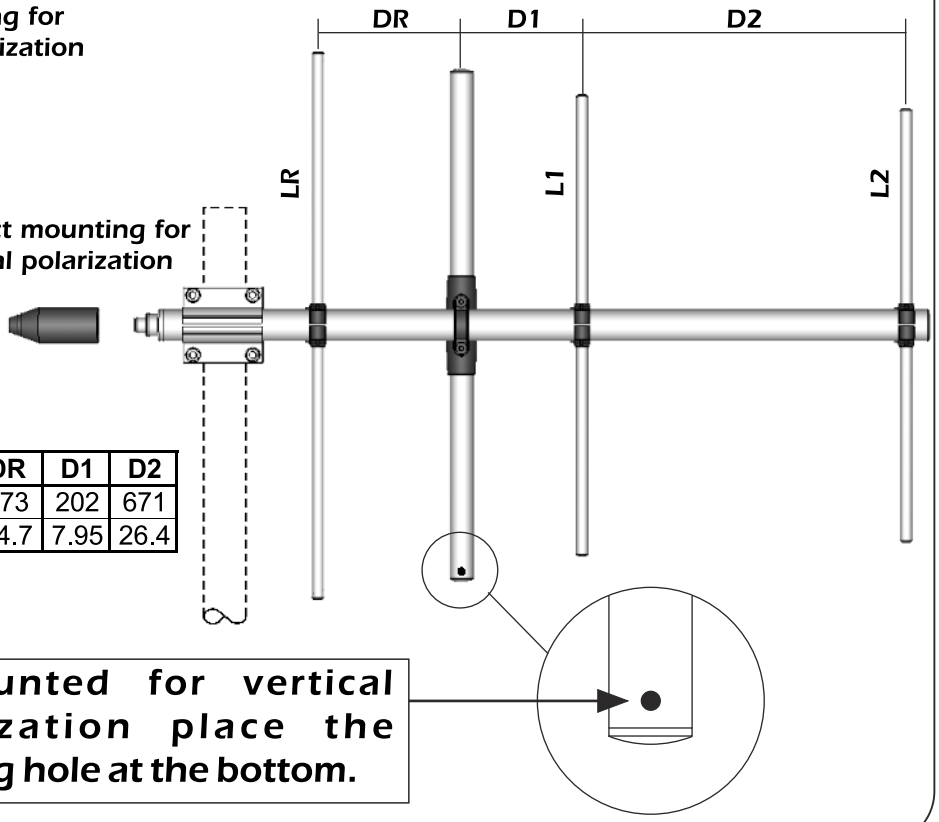


TYPICAL RADIATION PATTERN at mid-band





Correct mounting for horizontal polarization



Correct mounting for vertical polarization

Fig.1

		LR	L1	L2	DR	D1	D2
WY 136-4N	(mm)	1120	740	670	373	202	671
	(in)	44.1	29.1	26.4	14.7	7.95	26.4

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

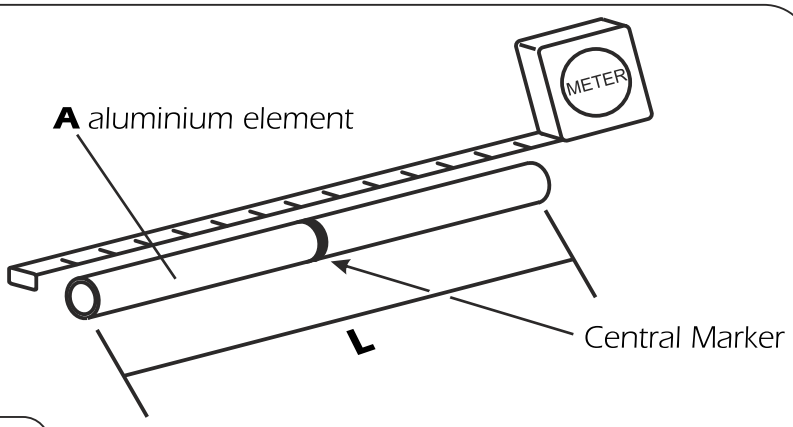


Fig.2

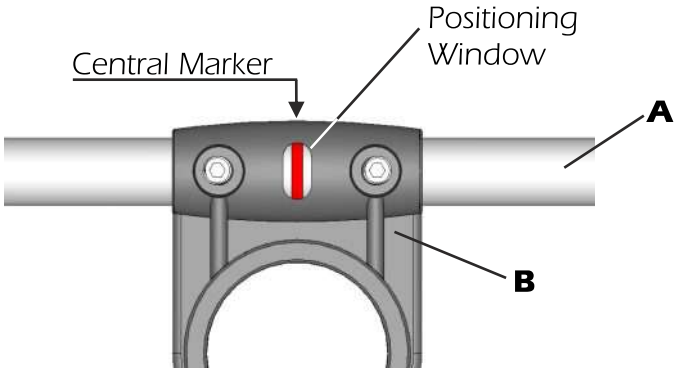


Fig.3

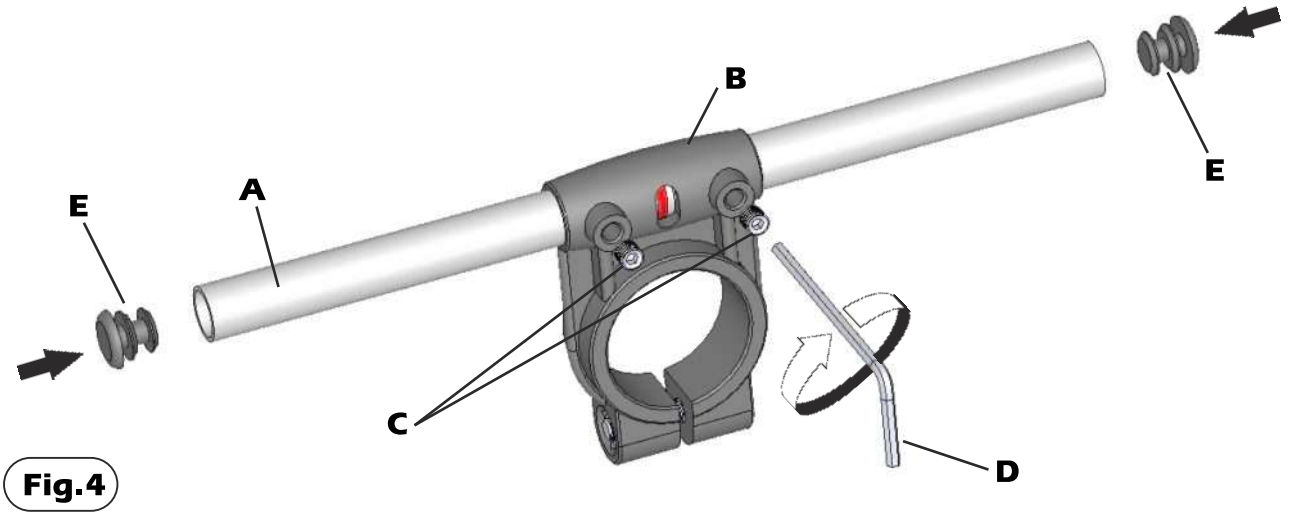


Fig.4

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

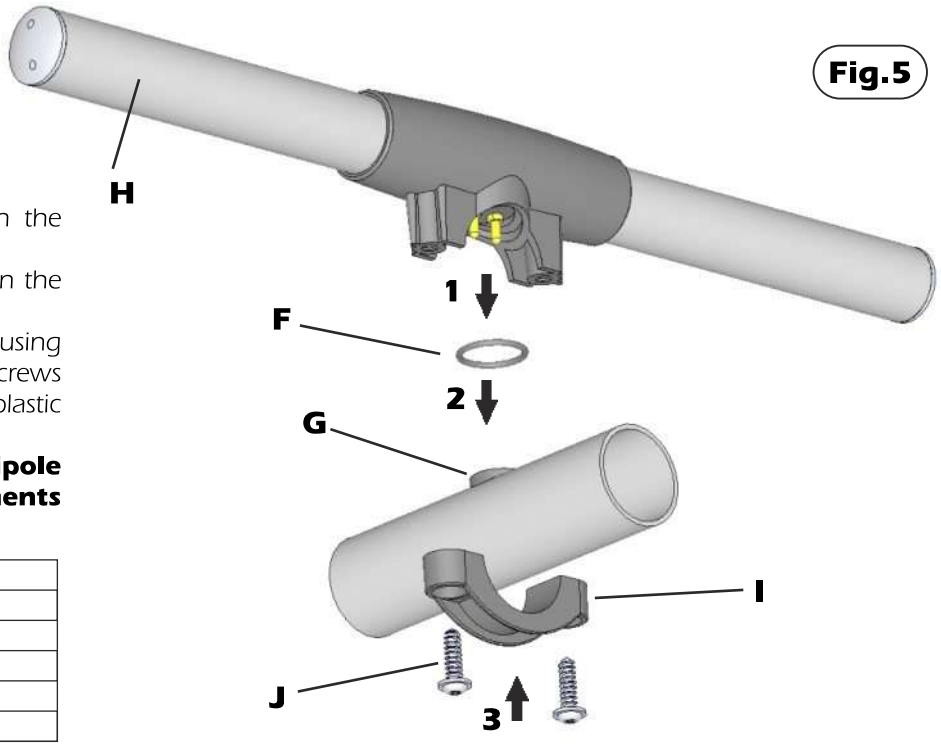


Fig.5

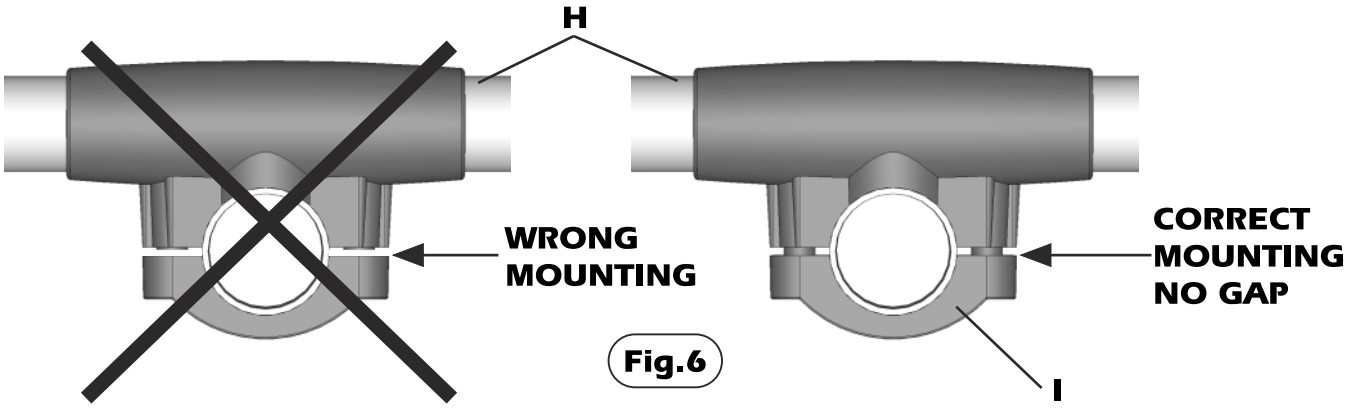
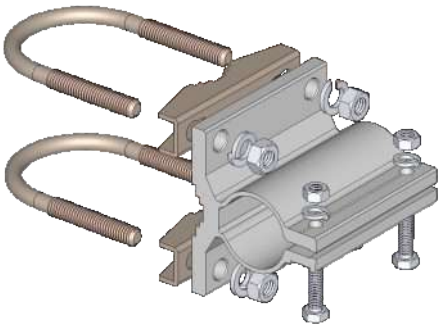


Fig.6

MOUNTING INSTRUCTIONS

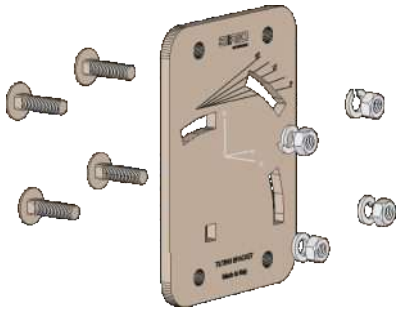
Standard Mounting Bracket



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

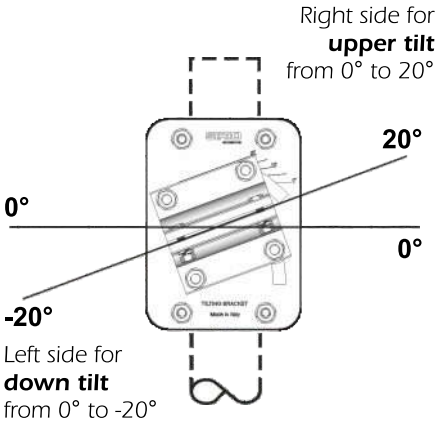
Tilting Bracket*



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

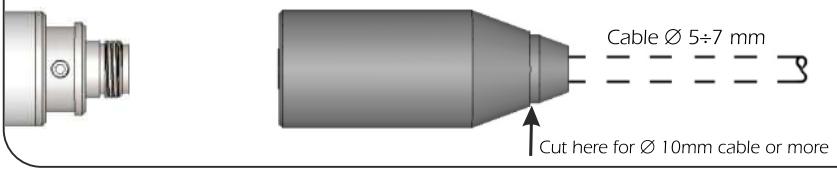
Mounting example



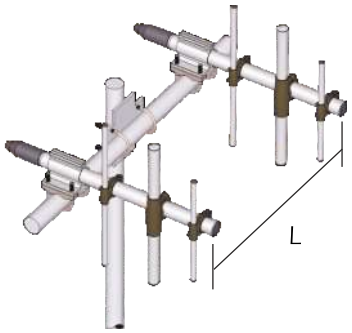
*** Optional (not included).**

Connector protection cap

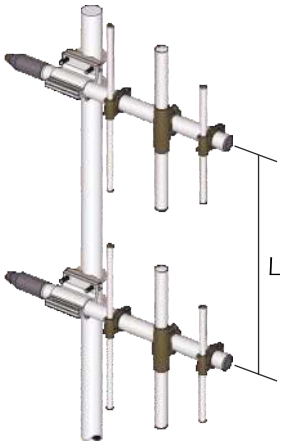
Spare parts: p/n TE06416



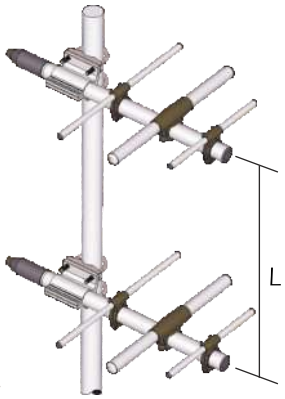
Stacking and Baying distance



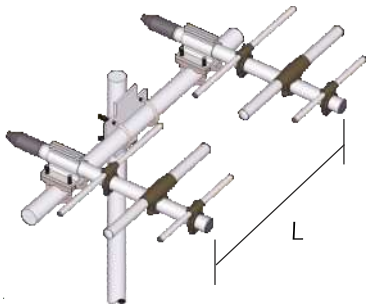
Vertical polarization
(Bayed)
L= 1.1 m; 3.6 ft



Vertical polarization
(Stacked)
L= 1.6 m; 5.25 ft



Horizontal polarization
(Stacked)
L= 1.1 m; 3.6 ft



Horizontal polarization
(Bayed)
L= 1.6 m; 5.25 ft

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