

WY 140-3N

WY 155-3N

VHF Base Station 3 Elements Yagi Antennas 140-175 MHz

DESCRIPTION: Base station antennas conceived by using an innovative feed system studied and applied to have highly symmetrical radiation pattern in both planes (E and H). It's completely computer designed to get high performances of gain and front-to-back in the working band. 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 and the connector is placed in rear position for an easy access. To increase the antenna gain please install it in vertical stacked array.

These products are Patented.

Electrical Data	WY 140-3N	WY 155-3N
Type	3 elements Yagi	
Frequency Range @ SWR ≤ 1.5	140 - 160 MHz	155 - 175 MHz
Impedance	50 Ω	
Radiation (H-plane) beamwidth @ -3 dB	140°	130°
Radiation (E-plane) beamwidth @ -3 dB	70°	70°
Front to back ratio	≥ 16 dB	
Polarization	Linear Vertical or Horizontal	
Gain	4.85 dBd - 7 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	

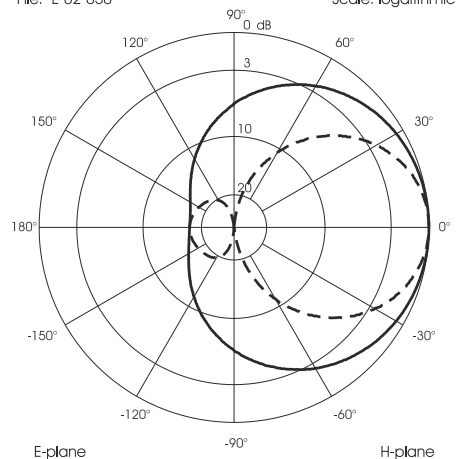
Mechanical Data

Materials	Anodized 6063-T5 Aluminium, EPDM rubber, thermoplastic UV stabilized, Chromed Brass	
Wind Load @ 150 km/h	114 N	109 N
Wind Resistance	160 Km/h; 99 mi/h	160 Km/h; 99 mi/h
Wind Surface	0.090 m ² ; 0.96 ft ²	0.086 m ² ; 0.92 ft ²
Dimensions W x H (approx.)	990 x 1110 mm; 3.2 x 3.6 ft	990 x 985 mm; 3.2 x 3.2 ft
Turning radius (approx.)	970 mm; 3.2 ft	950 mm; 3.15 ft
Weight (approx.)	1740 gr; 3.8 lb	1680 gr; 3.7 lb
Operating temperature	-40° C to +60° C	
Mounting Mast	Ø 35 - 52 mm; 1.4 - 2.1 in	
Boom / Dipole / Element Diameter	Ø 32 mm; 1.25 in / Ø 24 mm; 0.95 in / Ø 12 mm; 0.5 in	

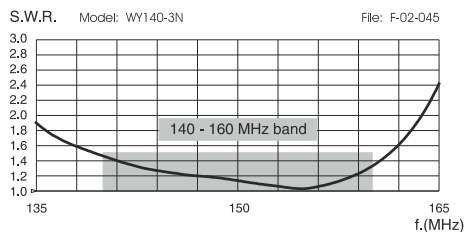


TYPICAL RADIATION PATTERN at mid-band

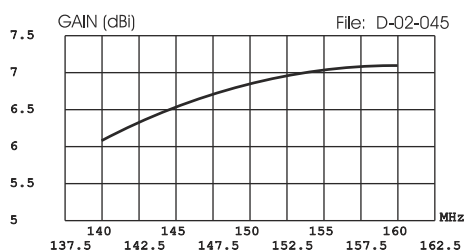
File: E-02-050 Scale: logarithmic



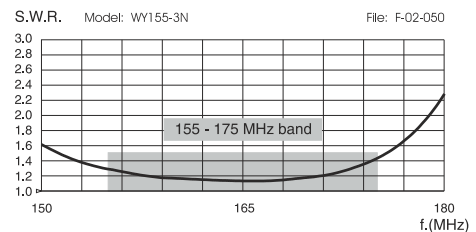
TYPICAL S.W.R. RESPONSE



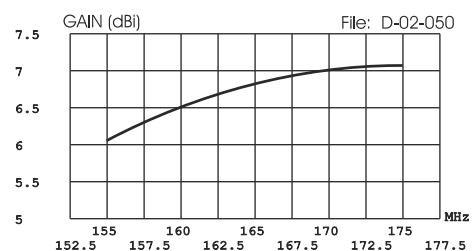
TYPICAL GAIN DIAGRAM vs FREQUENCY



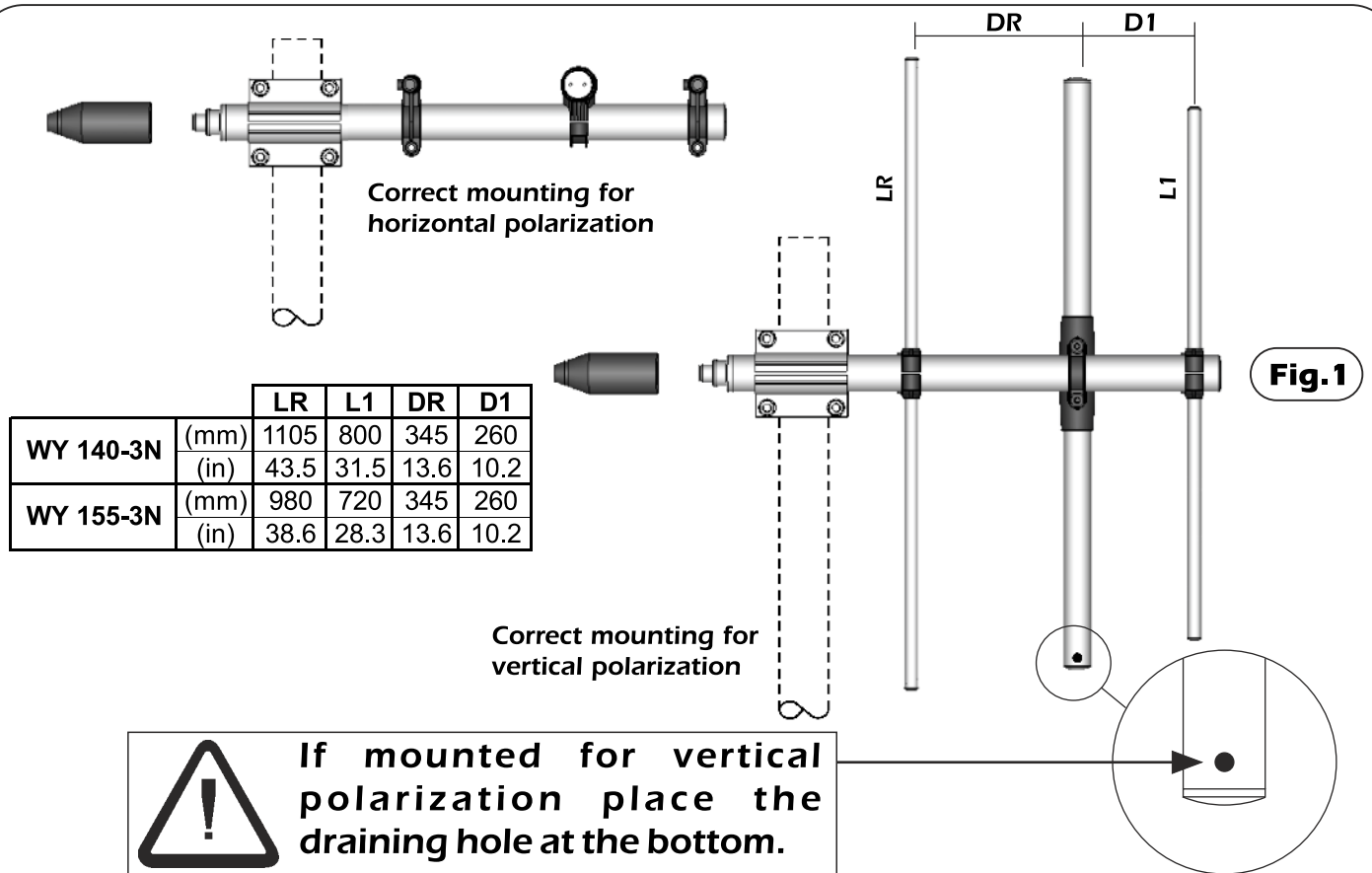
TYPICAL S.W.R. RESPONSE



TYPICAL GAIN DIAGRAM vs FREQUENCY



MOUNTING INSTRUCTIONS



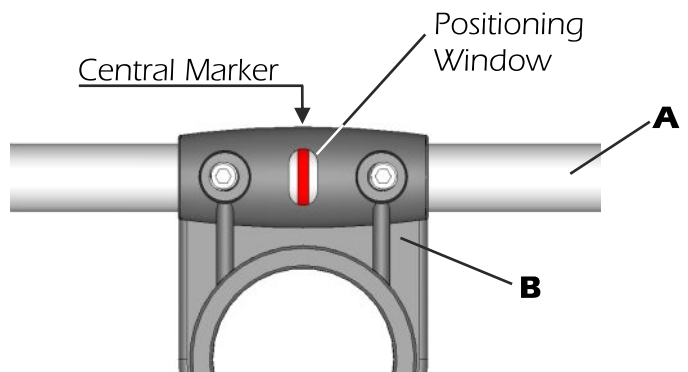
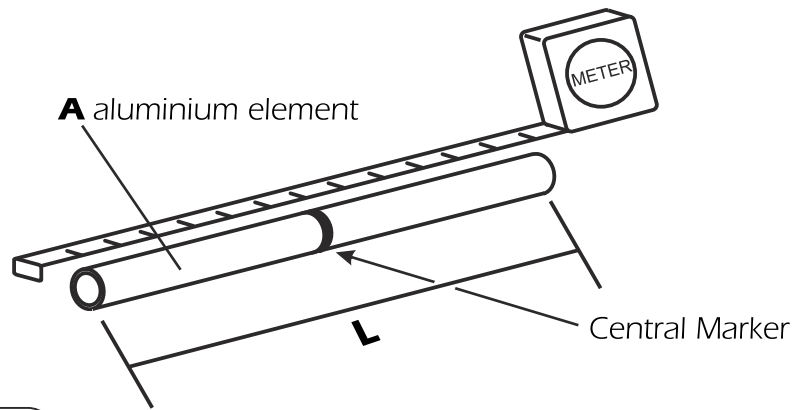
Element Mounting

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

MOUNTING INSTRUCTIONS

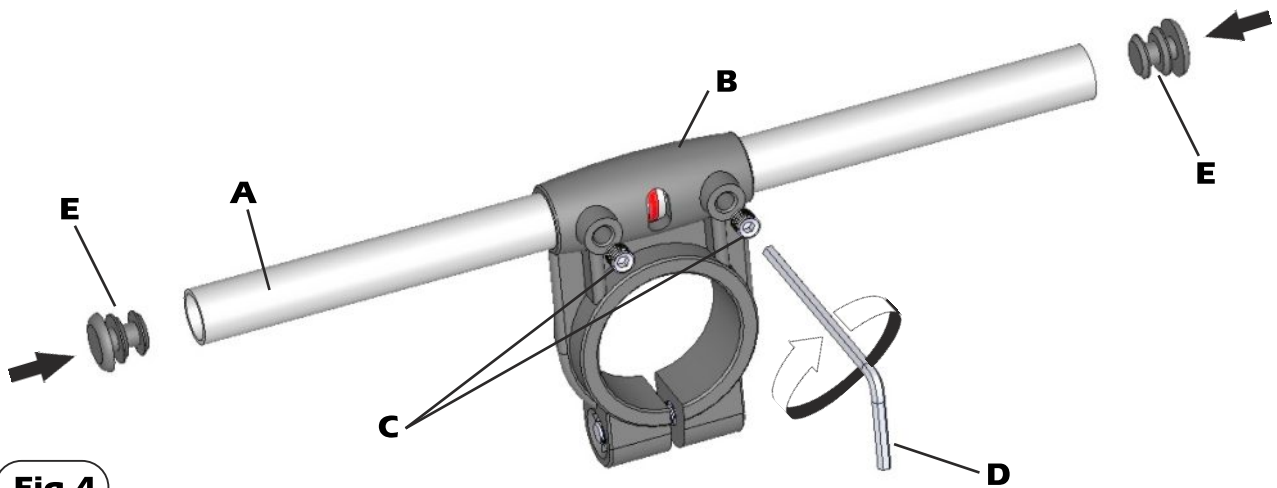


Fig.4

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 plastic 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

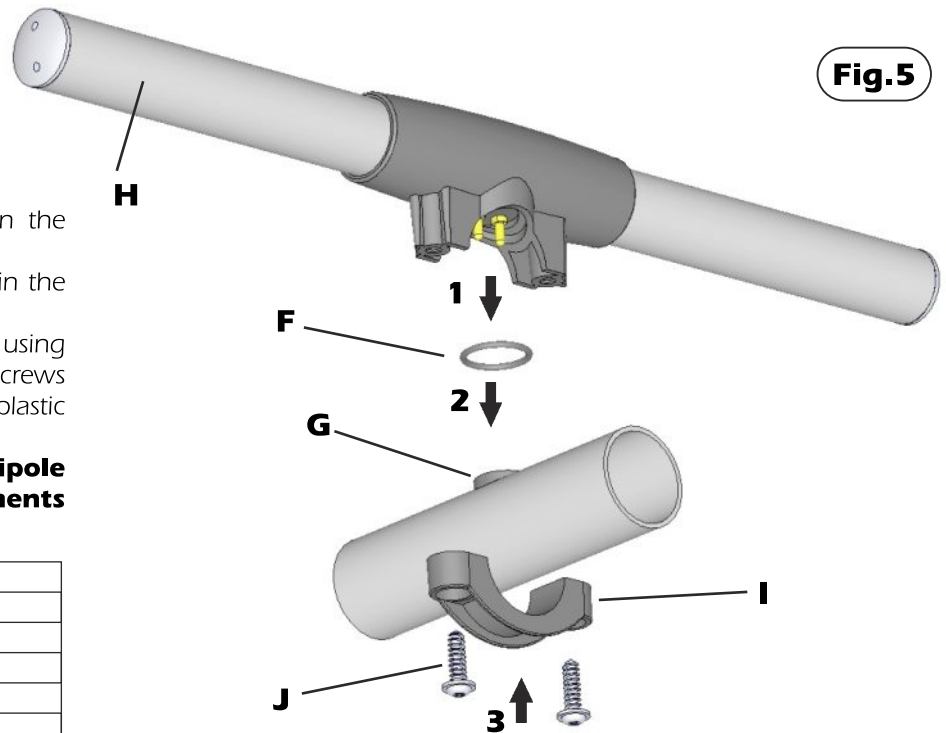


Fig.5

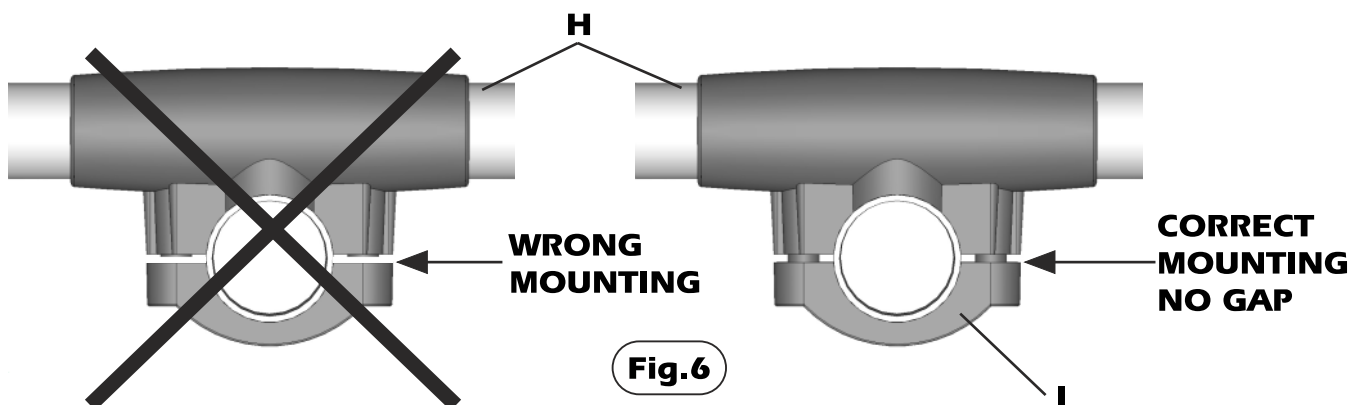
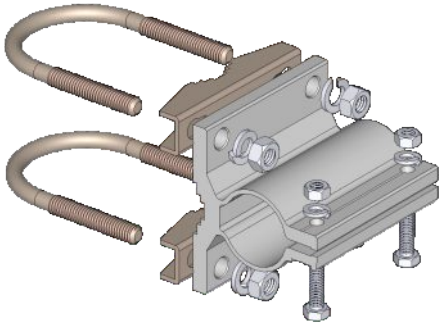


Fig.6

MOUNTING INSTRUCTIONS

Standard Mounting Bracket

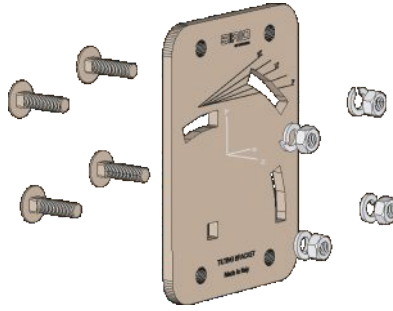


Spare parts: p/n SA197

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*

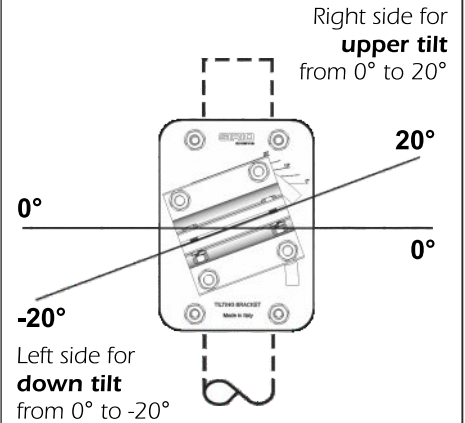


Order p/n: 2519803.00

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

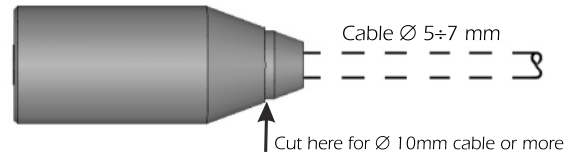
Mounting example



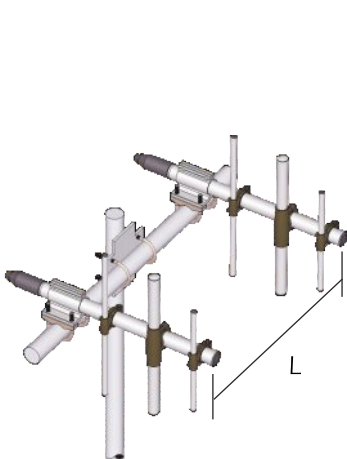
* Optional (not included).

Connector protection cap

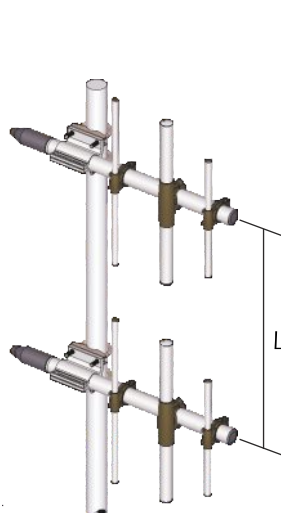
Spare parts: p/n TE06416



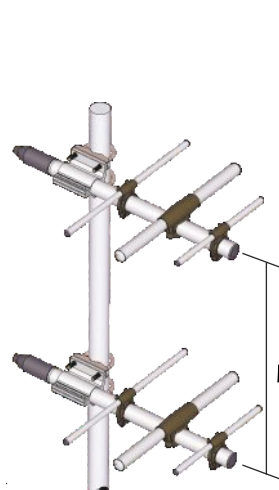
Stacking and Baying distance



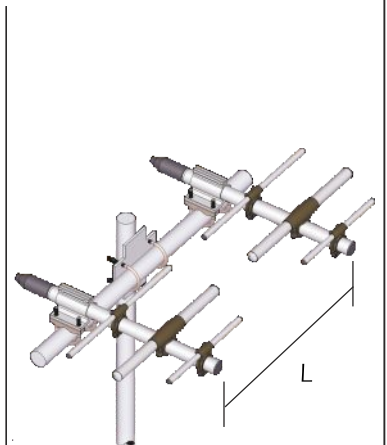
Vertical polarization
(Bayed)
L= 1.1 m; 3.6 ft



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