

## WD155-N

### 155-175 MHz Base Station Dipole Antenna

#### DESCRIPTION

Base station antenna 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 easily access. To increase the antenna gain please install it in vertical stacked array. **Patent pending applied.**

#### TECHNICAL DATA

##### Electrical Data

Type	Half wave Dipole
Frequency range	155 - 175 MHz
Impedance	50 Ω Unbalanced
Polarization	Linear Vertical
Radiation (H-plane)	beamwidth at -3 dB= 245° at 165 MHz
Radiation (E-plane)	beamwidth at -3 dB= 85° at 165 MHz
Max Gain	4 dBi
Front to Back ratio	≥ 5 dB
S.W.R. in bandwidth	≤ 1.5:1
Max Power	200 Watts (CW) at 30°C
Feed system / Position	RG303 Teflon coax with balun / inside boom
Lightning protection	DC-ground
Connector	N-female with rubber protection cap

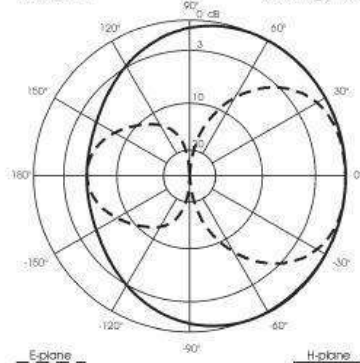
##### Mechanical Data

Materials	Anodized 6063-T5 Aluminium, Thermoplastic UV stabilized, Chromed Brass
Wind load / resistance	75 N at 150 Km/h / 200 Km/h
Wind surface	0.057 m <sup>2</sup>
Dimensions (approx.)	730 x 835 mm
Weight (approx.)	1340 gr
Turning radius	600 mm
Operating temperature	-40° C to +60° C
Mounting Mast	∅ 35-52 mm



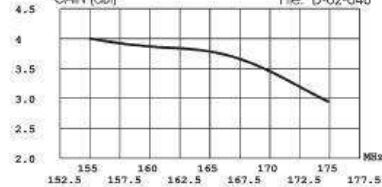
TYPICAL RADIATION PATTERN of 165 MHz

File: E-02-048 Scale: logarithmic



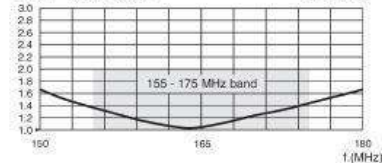
TYPICAL GAIN DIAGRAM vs FREQUENCY

File: D-02-048



TYPICAL S.W.R. RESPONSE

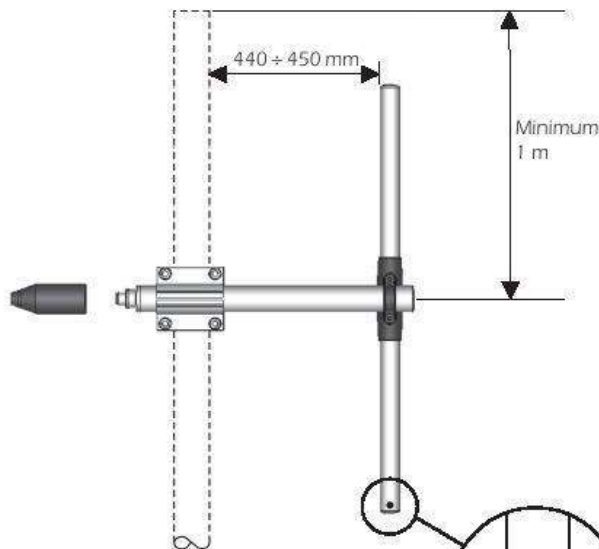
Model: WD155-N Rev: F02-048



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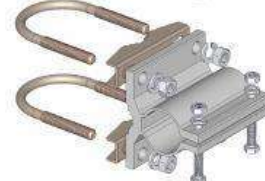
### MOUNTING INSTRUCTIONS

#### Correct mounting for vertical polarization



**Place the draining hole at the bottom.**

#### 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

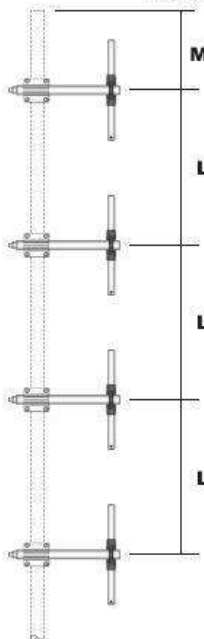
Q.ty	Description
1	Extruded aluminium bracket
2	Steel bracket
2	M8x200 U-bolt
4	M8 Grower washer
4	M8 Exagonal nut
2	M6x20 Exagonal head screw
2	M6 Grower washer
2	M6 Exagonal nut

#### Connector protection cap

**Spare parts: p/n TE06416**



#### Side mast mounting for DIRECTIONAL pattern: Stacking distance



**Min. 1 m**

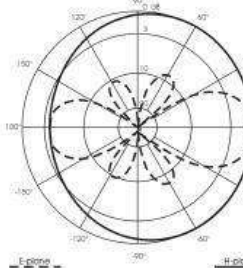
Vertical polarization  
(Stacked)  
**L = 1.6 m**

No. of dipole	Max Gain (dBi)	HPBW E-plane	HPBW H-plane
2	7.3	32°	245°
4	10.2	16°	245°
6	12	10.5°	245°
8	13	8°	245°

#### 2 Dipole array

TYPICAL RADIATION PATTERN at 165 MHz

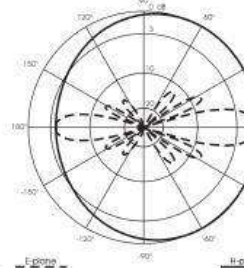
File: E-02-048a Scale: linear



#### 4 Dipole array

TYPICAL RADIATION PATTERN at 165 MHz

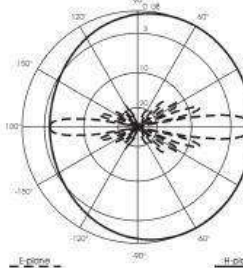
File: E-02-048b Scale: linear



#### 6 Dipole array

TYPICAL RADIATION PATTERN at 165 MHz

File: E-02-048c Scale: linear



#### 8 Dipole array

TYPICAL RADIATION PATTERN at 165 MHz

File: E-02-048d Scale: linear

