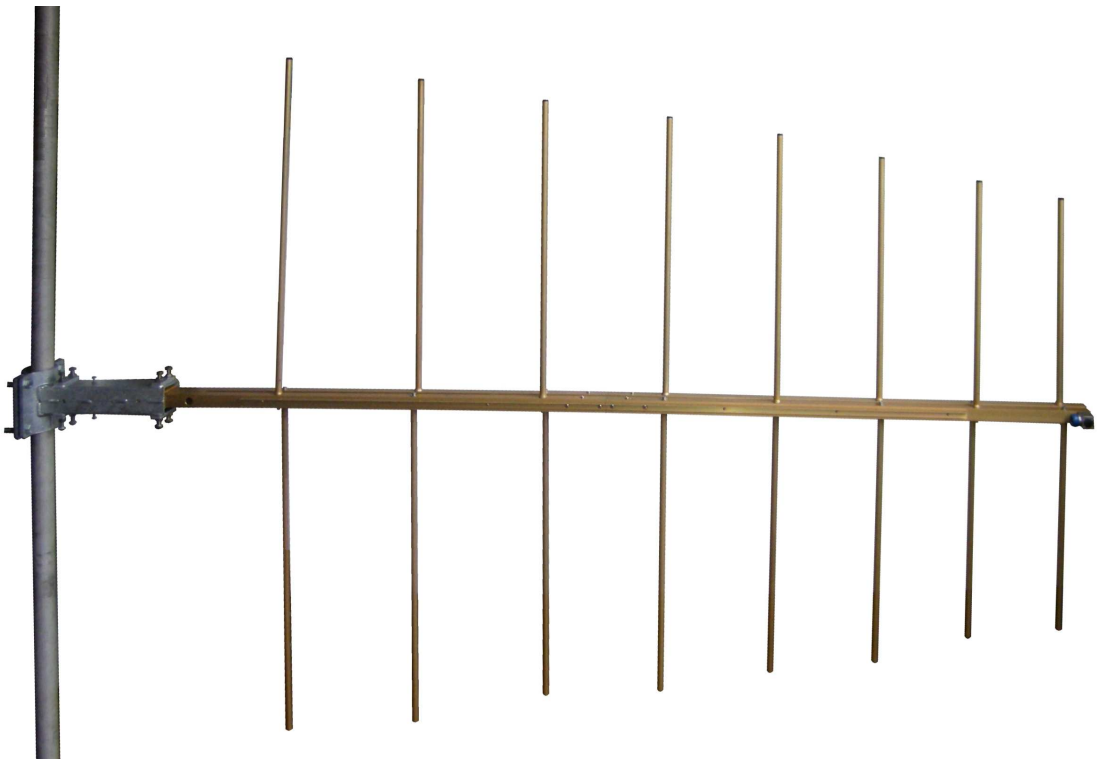
AKL/8M FM LOG Antenna



MOUNTING INSTRUCTIONS

These wide band FM antennas, made of aluminum Alodyne 120 are particularly recommended for medium Output Power Transmitters.

AKL/8

BAYS	DB	ANTENNA	WEIGHT	VIND VEL.	WIND LOAD
	GAIN	Vert. dimensions	Kg	Km/h	Kg.
1	7.5	1,8 mt	15	160	67
2	10.5	4,3 mt	30		
4	13.5	9,3 mt	60		
6	15.0	14,3 mt	90		
8	16.5	19,3 mt	120		

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SUGGESTED MAST SECTION

Is suggested install this Antenna over a pole with section from 65 to 105mm.

DISTANCE ESTIMATION BETWEEN FM ANTENNA BAYS

Wave Length = λ = 300 : f(MHz)

Distance between antenna bays (all antenna types) = **d**

d (suggested) = λ x 0.85

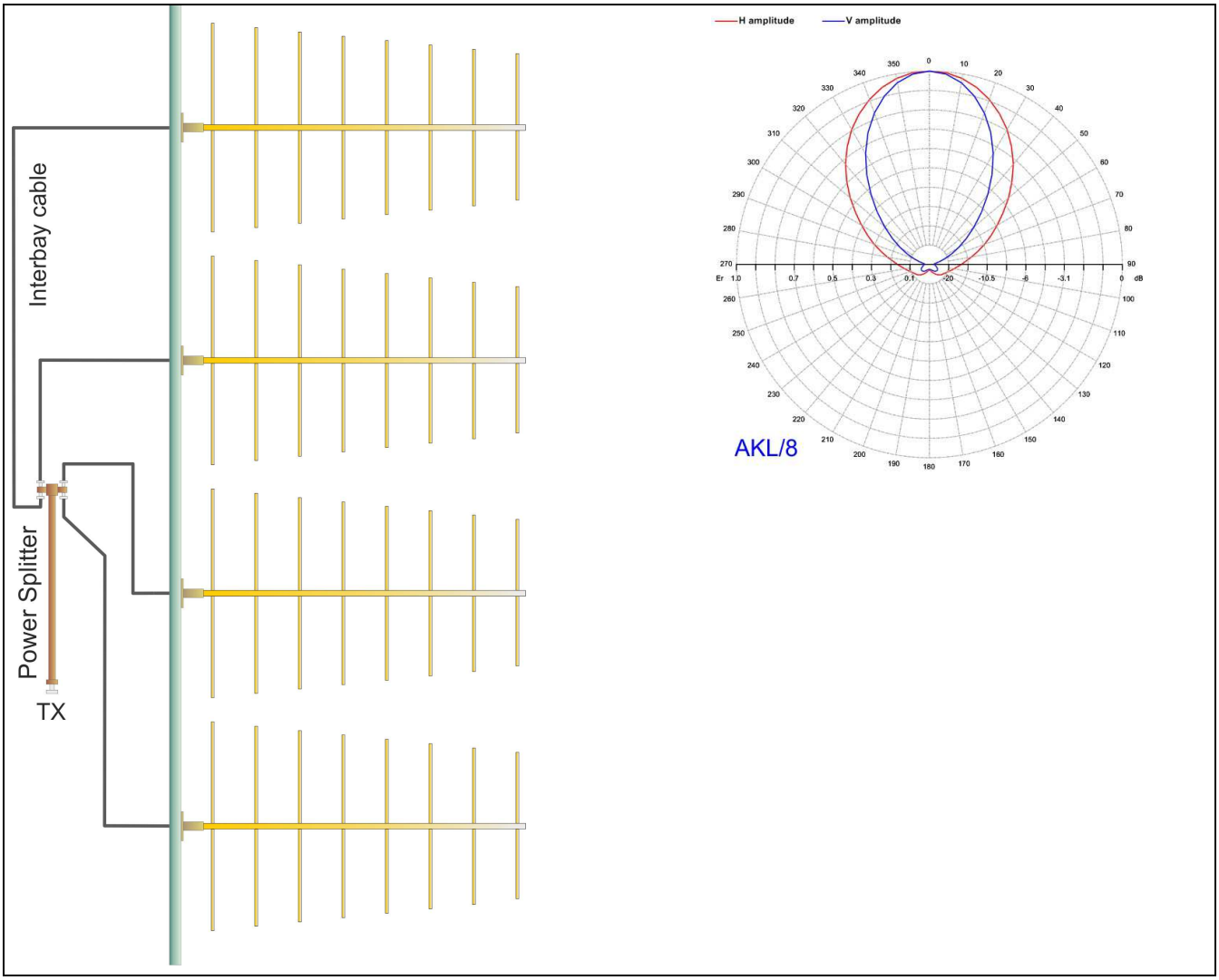
examples

88MHz ➢ λ = 300 : 88 = 3.41 mt ➢ d = 3.41 x 0.85 = 2.9 mt

98MHz ➢ λ = 300 : 98 = 3.06 mt ➢ d = 3.06 x 0.85 = 2.6 mt

108MHz ➢ λ = 300 : 108 = 2.78 mt ➢ d = 2.78 x 0.85 = 2.36 mt

Distance **d** suggested 2.6mt even if working frequency is Mid FM Band



ELECTRICAL CHARACTERISTICS

Antenna type: Log-periodic 8 elements

Gain: 7.5 dBd (9.7 dBi) average

Half-power horizontal beamwidth: average

Half-power vertical beamwidth: average

Standing Wave Ratio: 1.4:1 max

Bandwidth: 87.5 - 108 MHz

Polarization: Vertical

Impedance: 50 Ohm

Connector: 7/16 female

Max power: 2000 W

MECHANICAL CHARACTERISTICS

Fixing: With bracket for masts

Overall dimensions: 168 x 260 x 23 cm

Packing:

Sections: Elements Ø 16 mm - Booms 30 x 30 mm

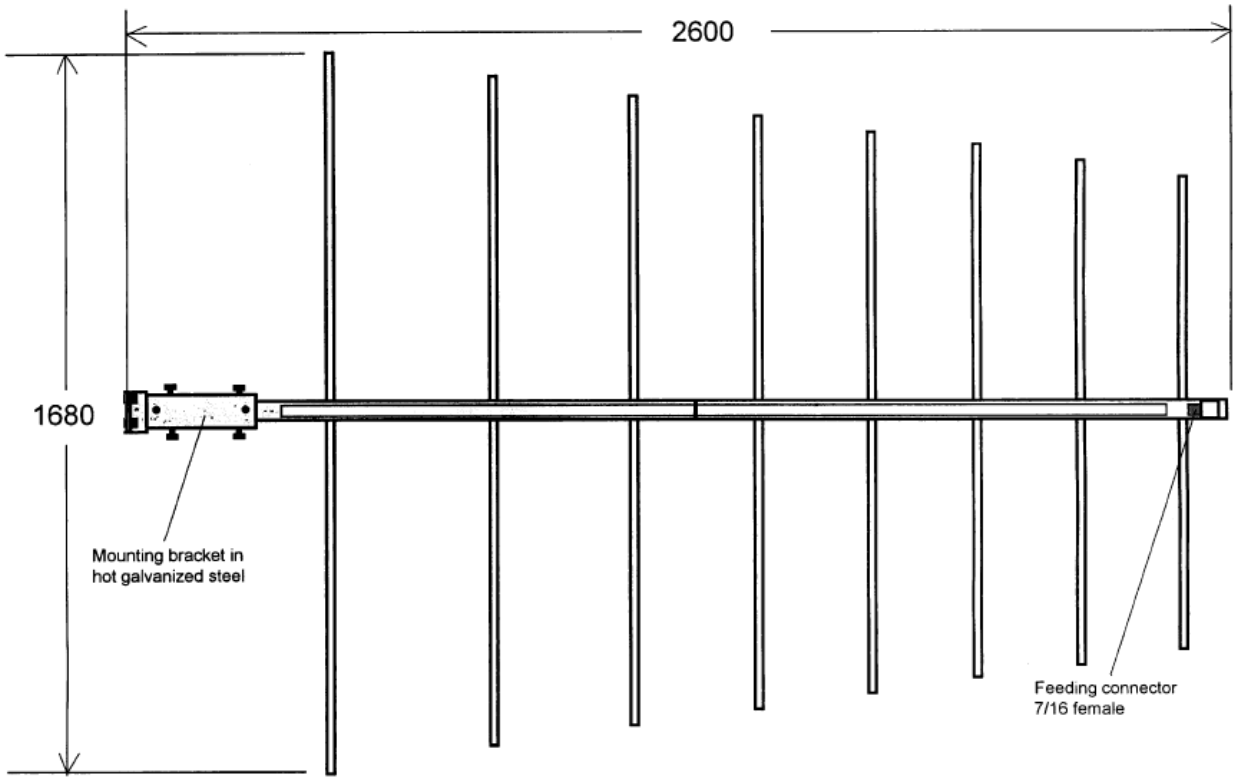
Materials:

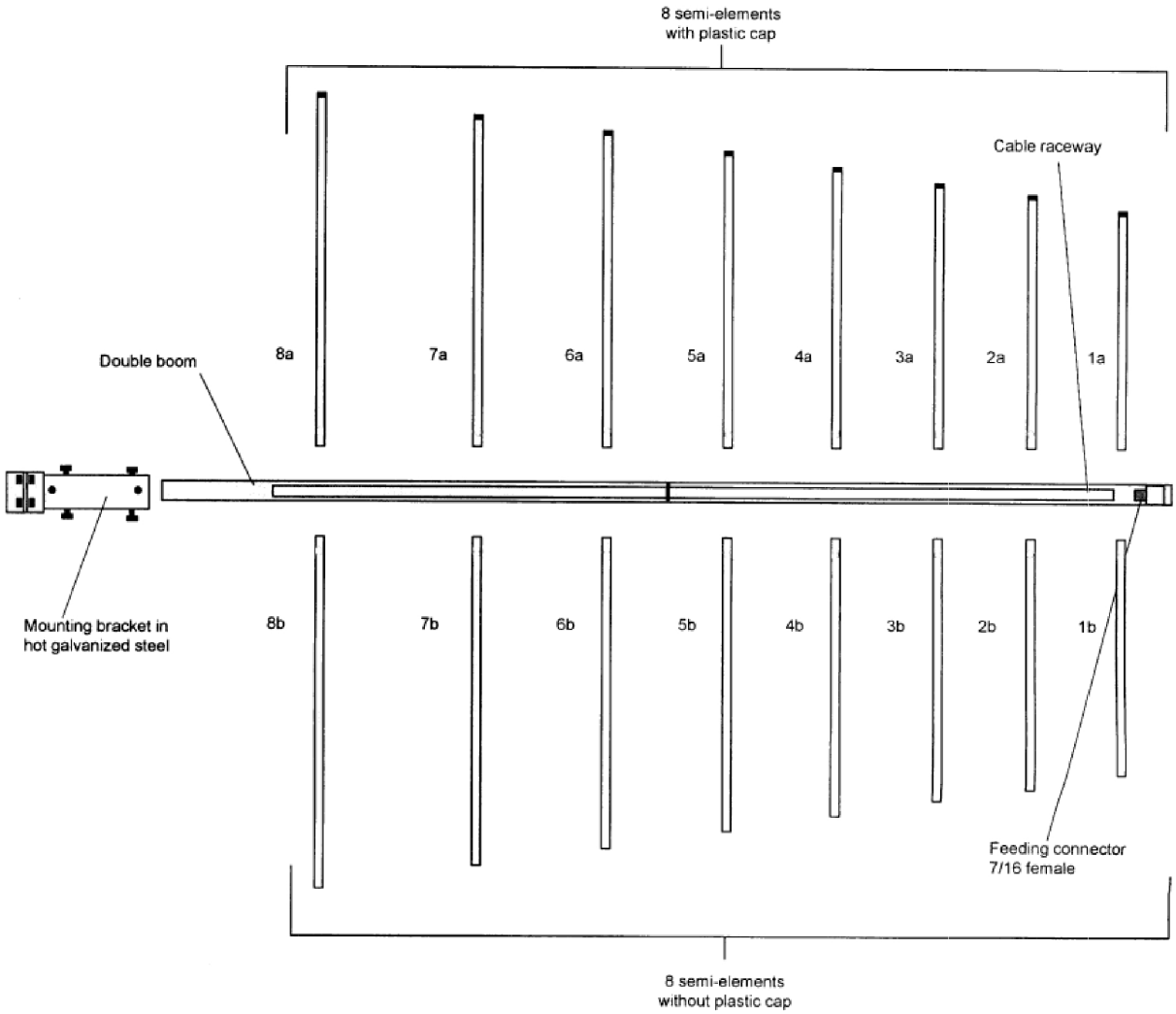
Wind load (160 Km/h):

Weight:

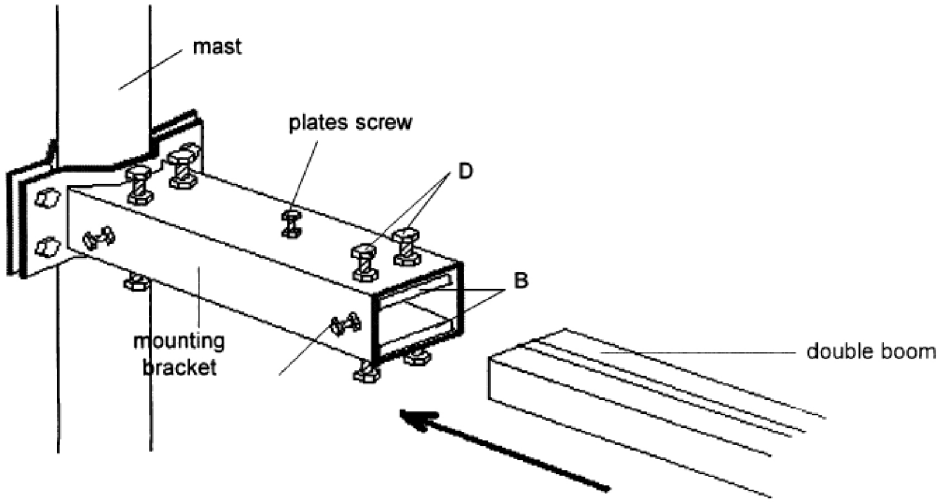
Icing protection: Fiberglass radome available

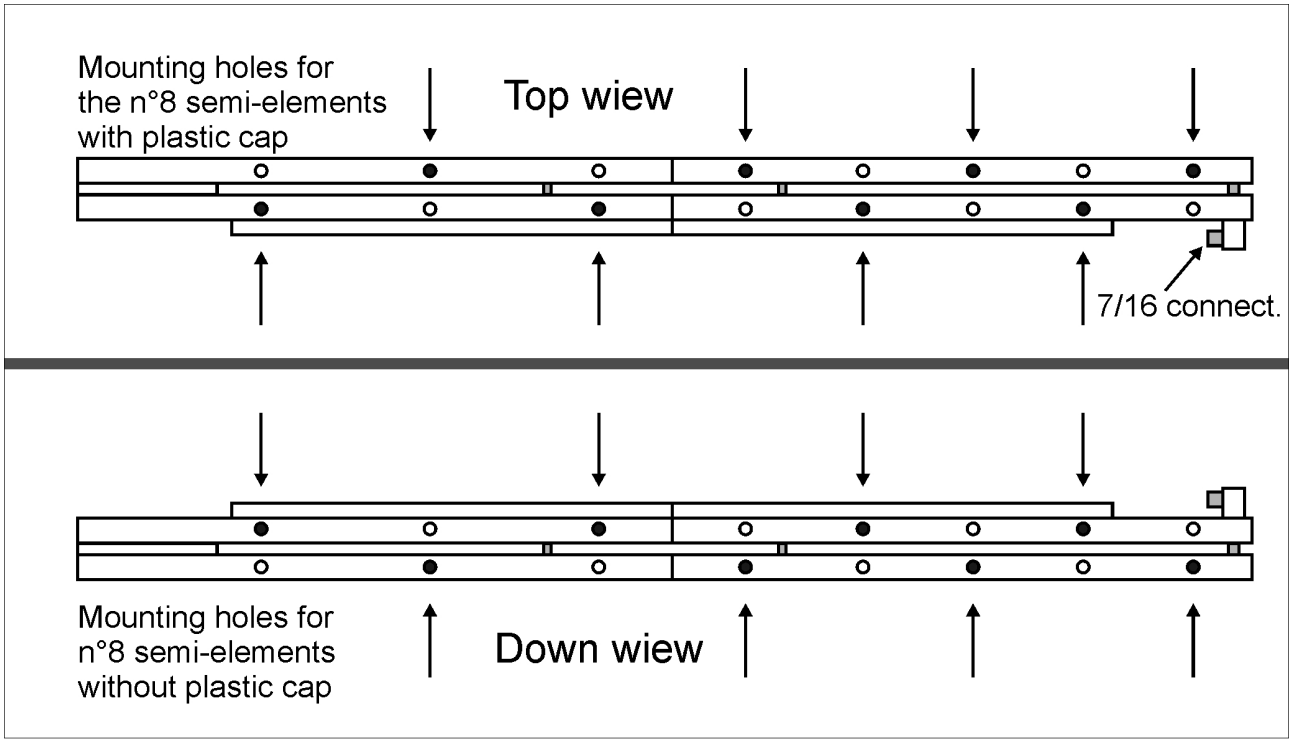
Mounting: Suitable for hi-gain stacked-arrays or antenna systems with nulls in horizontal pattern.

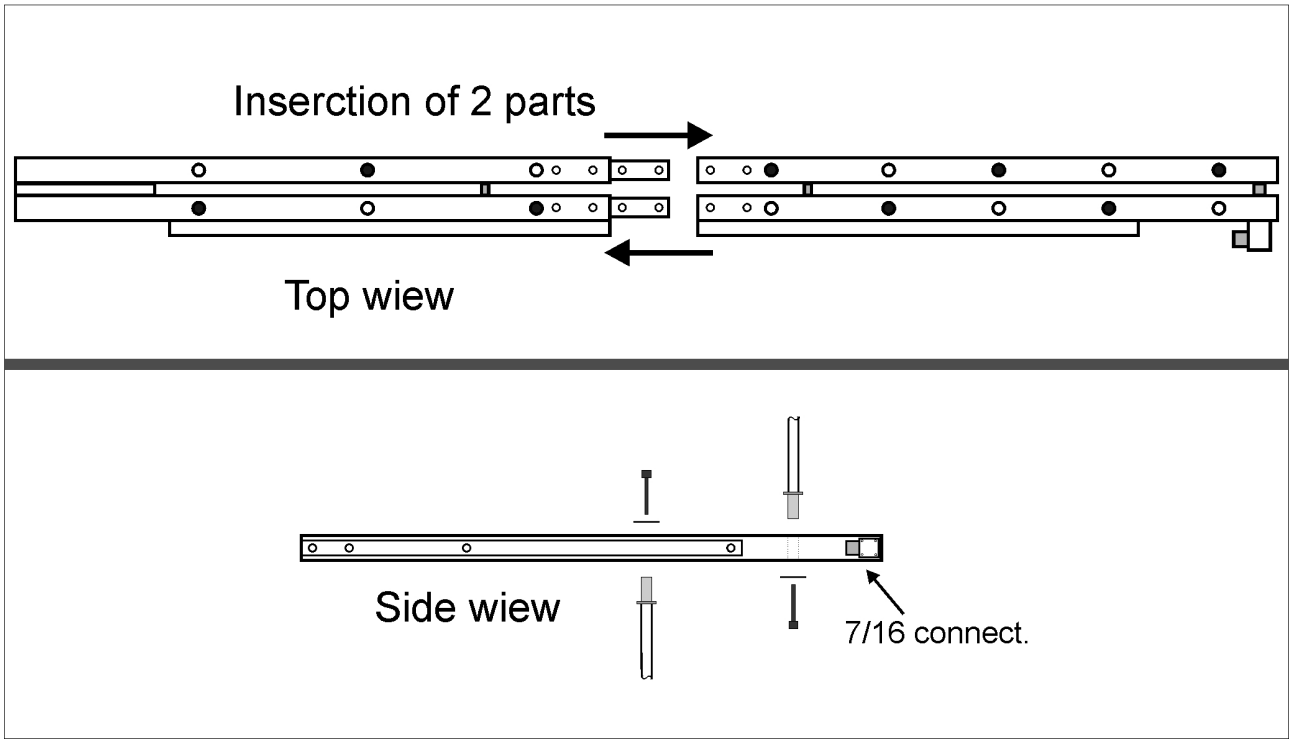



8 semi-elements
with plastic cap
Cable raceway
Double boom
8a
7a
6a
5a
4a
3a
2a
1a
Mounting bracket in
hot galvanized steel
8b
7b
6b
5b
4b
3b
2b
1b
Feeding connector
7/16 female
8 semi-elements
without plastic cap

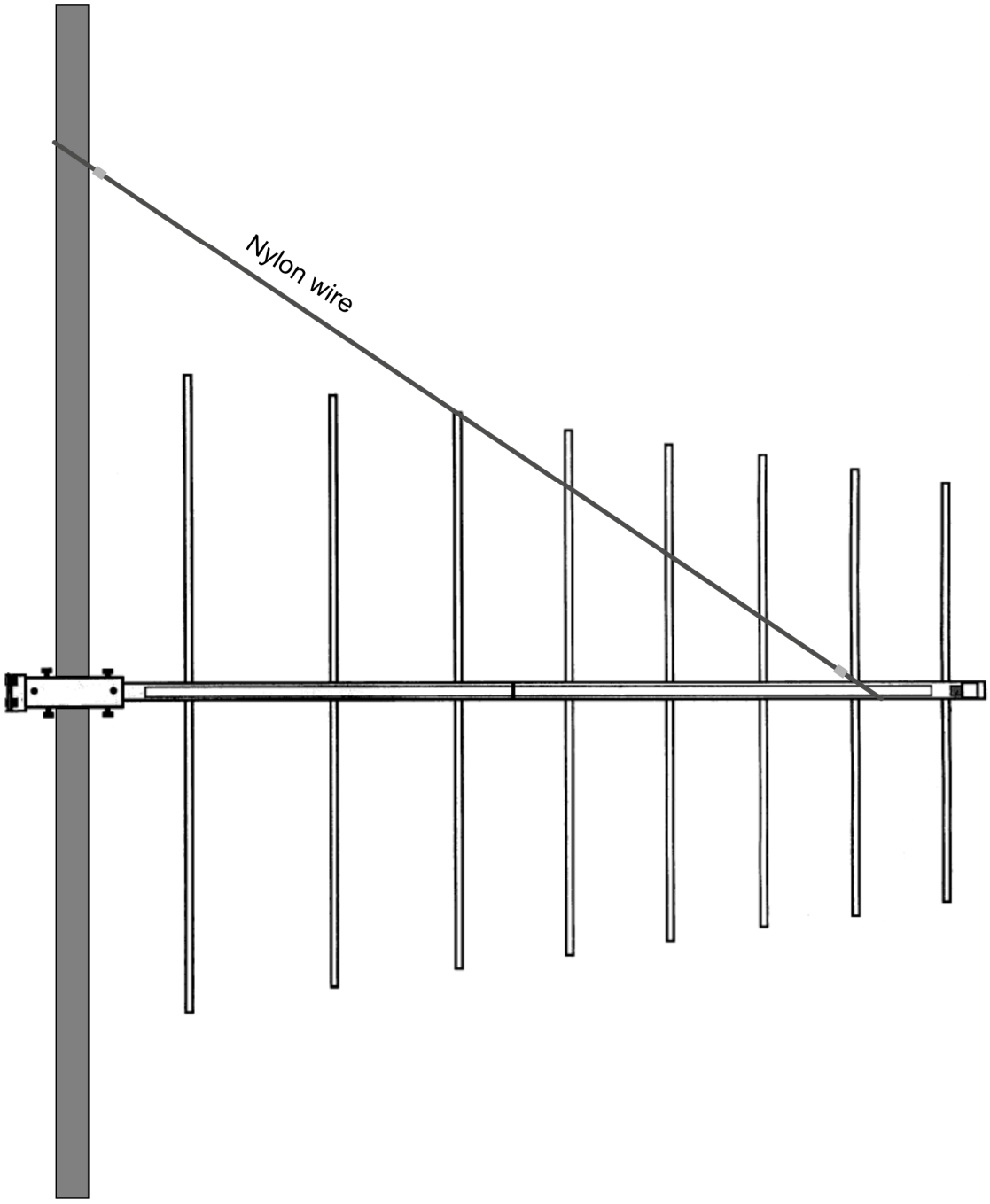
SIDE VIEW


mast
plates screw
D
B
mounting
bracket
double boom

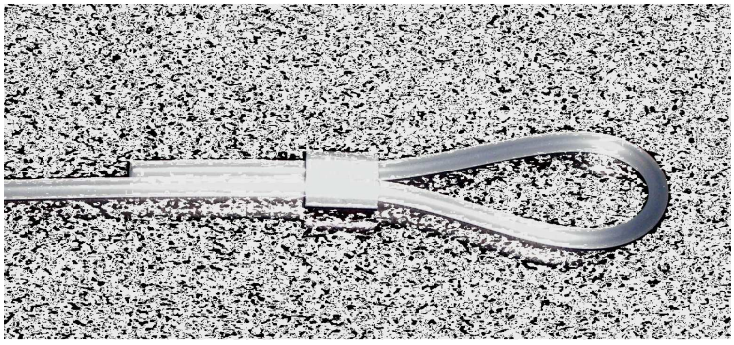




Please, apply spray Oil on all the contact surfaces and the screw holes.



Nylon Wire



1 - Begin the mounting of the 16 semi-elements starting by the **shorter** one **without plastic cap** (1b). It must be mounted as shown in figure 1, close to the feeding connector by the **down side**.

2 - Fix it by means of its Allen screw (A) and its wrench.

3 - Follow the mounting of all the other semi-elements, alternating the position of each one on each part of the boom.
Each semi-element by the same side must be longer than the previous one going far-away the connector.
The semi-elements **with plastic cap** must be mounted on the **up side** and the semi-elements **without plastc cap** must be mounted on the **down side**.
The UP side of the antenna is defined by the position of the connector and the cable raceway, that must be by the right side of the double boom, once the antenna is mounted on the mast in working position (as shown in figure 1 and 2).
So the semi-element "1a" will be mounted on the **left** boom **up side**, the semi-element "2a" will be mounted on the **right** boom **up side**, the semi-element "3a" will be mounted on the **left** boom **up side**, and so on.
Instead, while the semi-element "1b" has been mounted on the **right** boom **down side** (see step 1), the semi-element "2b" will be mounted on the **left** boom **down side**, the semi-element "3b" will be mounted on the **right** boom **down side**, and so on.
ATTENTION: 2 consecutive semi-elements by the same side CANNOT be mounted on the same boom. Otherwise the antenna does not work.

4 - Connect the feeding cable to the feeding connector (figure 2) and fit it into the cable raceway along the whole antenna boom, by fixing it with plastic clamps.

5 - Fix the mounting bracket to the mast (figure 3) and insert the double boom in its aperture between the 2 plates (B).

6 - Center the boom into the mounting bracket by using the 4 screws (C).

7 - Screw slightly the 8 bolts (D) and adjust it until the double boom of the antenna is perfectly horizontal; screw tight all the bolts and nuts.