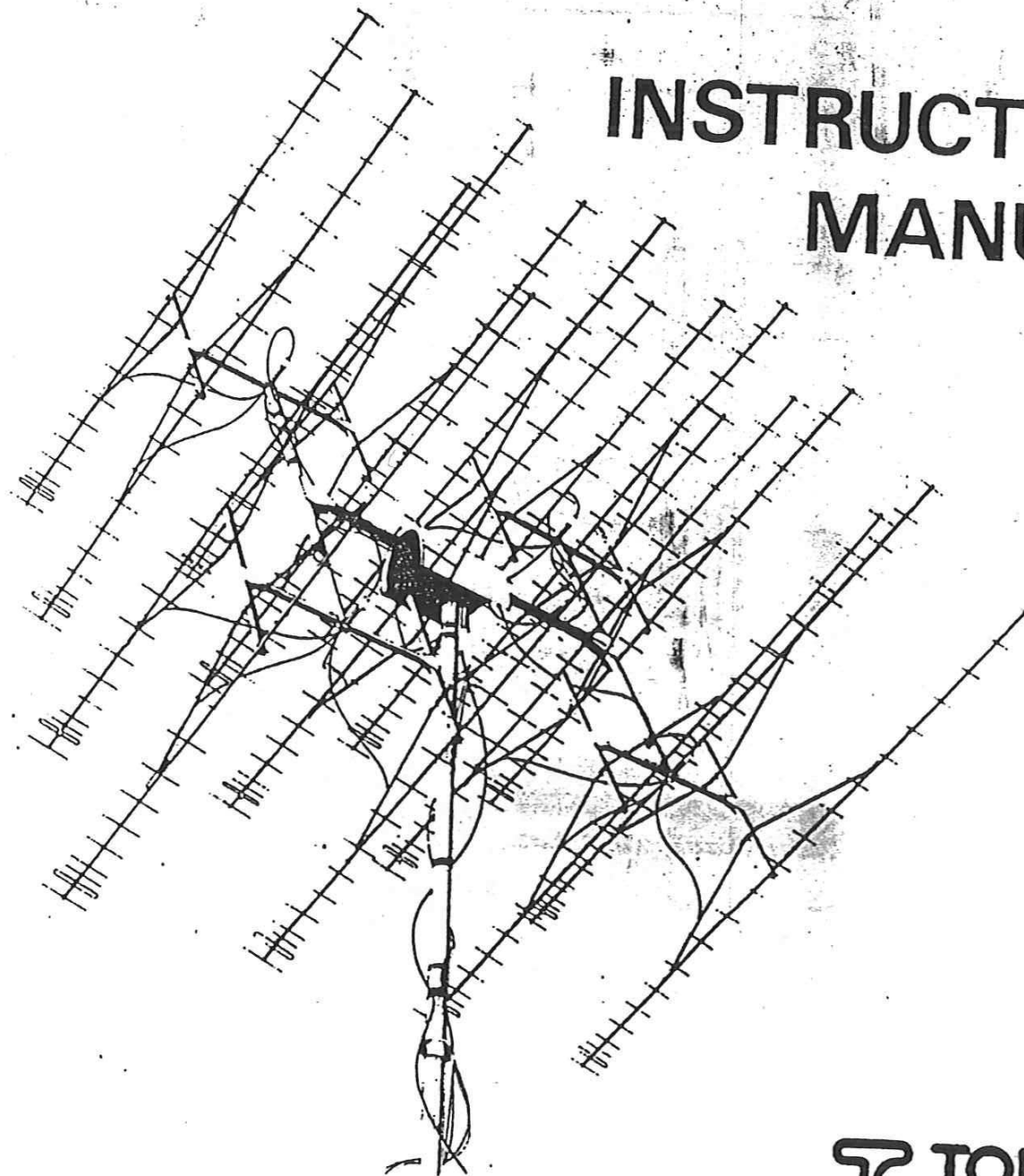


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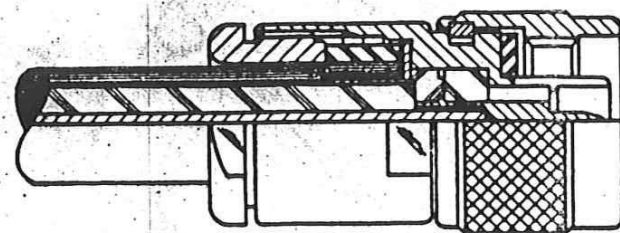
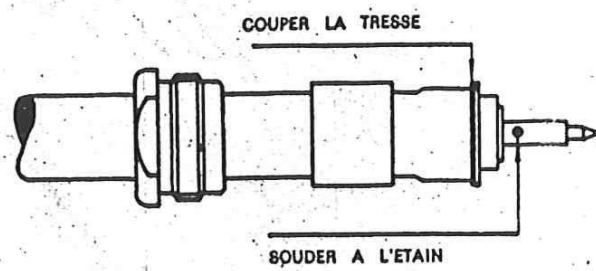
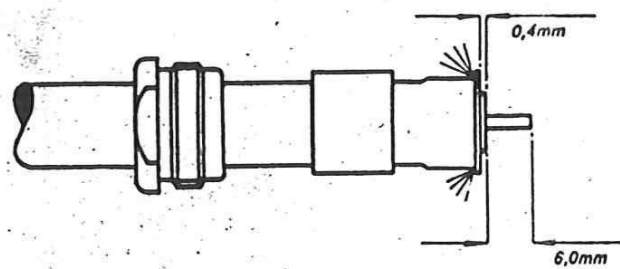
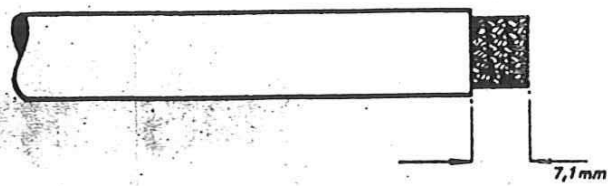
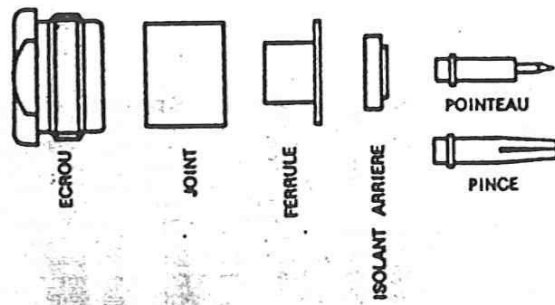
435 MHz 19 ELEMENT

**INSTRUCTION
MANUAL**



TONNA

PRESSE ETOUPE SYSTEME SERLOCK



ASSEMBLY INSTRUCTIONS

435 MHz 19 element F9FT ANTENNA

IMPORTANT

When opening the package, check and compare all parts and hardware with enclosed part list. Then, thoroughly and carefully read the instructions.

ELEMENT ASSEMBLY

Each element is mounted on the boom with a special holder (#8 on diagram), made of glass fiber loaded polycarbonate. This holder is provided with a conical hole, into which a thread is tailored with a special self tapping screw (#9 on diagram). DO NOT OVERTIGHTEN THIS SCREW !! Note: a hexagonal screw of the same type is used for directors D1 and D2 (#10).

On each element is provided a centering bump which must fit inside the centering cavity of the holder (See arrow on medalion C). First snap the holder on the element, taking care for proper centering, and mount the holder on the boom, with screw #9. The holder should be mounted as shown on the diagram (the hole is located BEHIND the element, when antenna is seen from rear). If not, spacings between directors, driven elements and reflectors may not be correct any longer.

CAUTION

The antenna still being on the ground, make sure that all element lengths decrease, from reflector R (longer element) through director D17 (shorter element); each successive element is either the same or shorter than the prior element. If not, performance of the antenna may be drastically reduced.

FEED-LINE AND DRIVEN ELEMENT

The feed-line is connected to the driven element (DIP) with a watertight type N connector set. The driven element is fitted with a built-in standard UG58A/U female receptacle. A standard UG21B/U male connector is delivered as accessory with the antenna. Use RG213/U, or better coaxial cable whenever available.

A quarter wave filter, called "bazooka" (#11), is used to cancel the outer currents on the outer conductor of the coaxial line. A plastic hood (#14) is also provided, to avoid condensation around the connector, on the driven element.

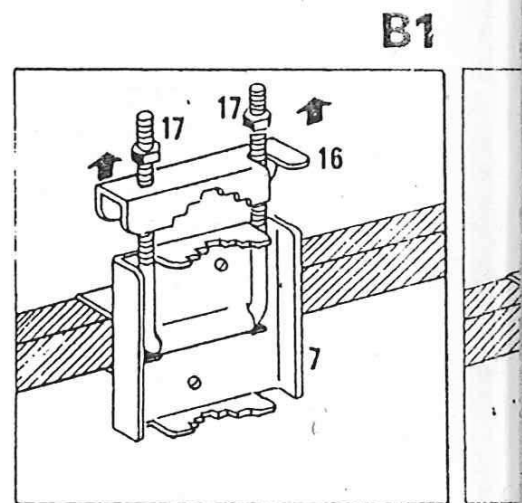
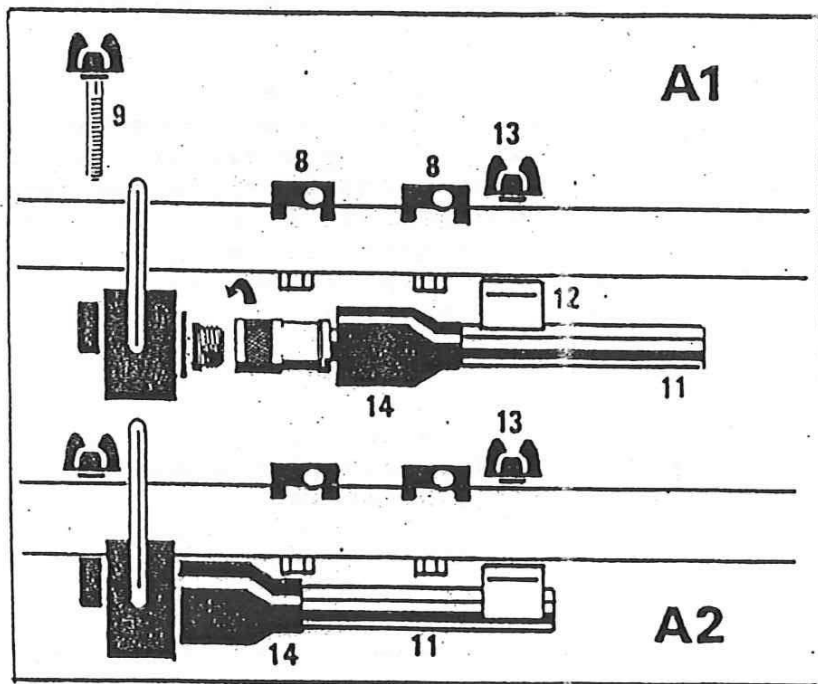
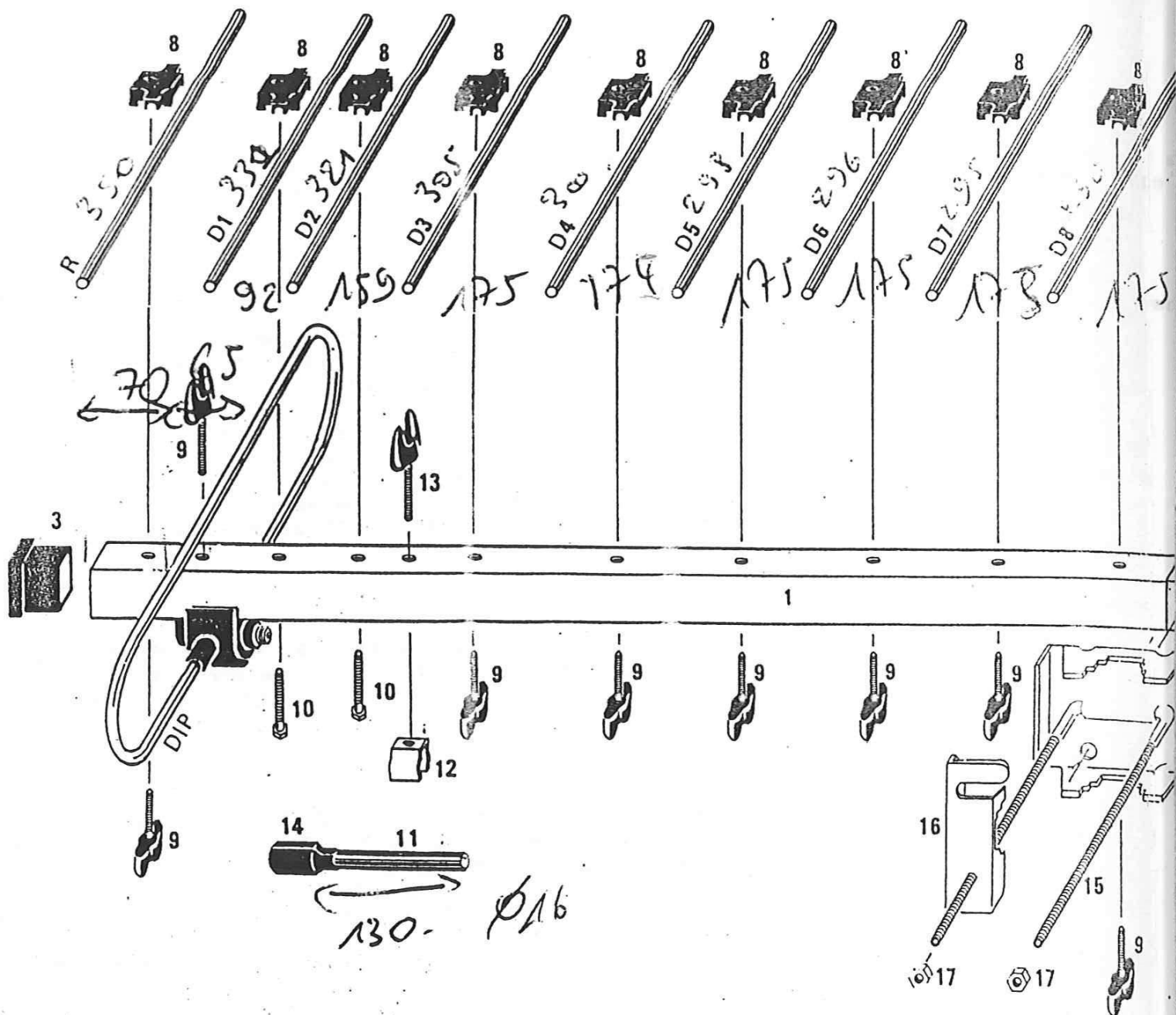
Slide the hood on the bazooka, the broad end of the hood facing one end of the bazooka, and snap the mounting clamp (#12) on the other end; slide the bazooka on the coax, with the clamp #12 opposite to the coax end; mount the connector on the coax cable (See connector sketch for proper mounting on cable). Put the driven element case above mounting hole, and tighten with the wing screw #9. Screw in the UG21B/U connector on the UG58A/U receptacle, and finally tighten to boom the bazooka clamp, with M5 wing screw #13. DO NOT OVERTIGHTEN THE SCREWS! Slide the hood around the ring provided around the coaxial receptacle, on the driven element (See medalion A1 and A2), and drill a "breathing" hole (1.5 mm or 1/16 ") on the lower part of the hood.

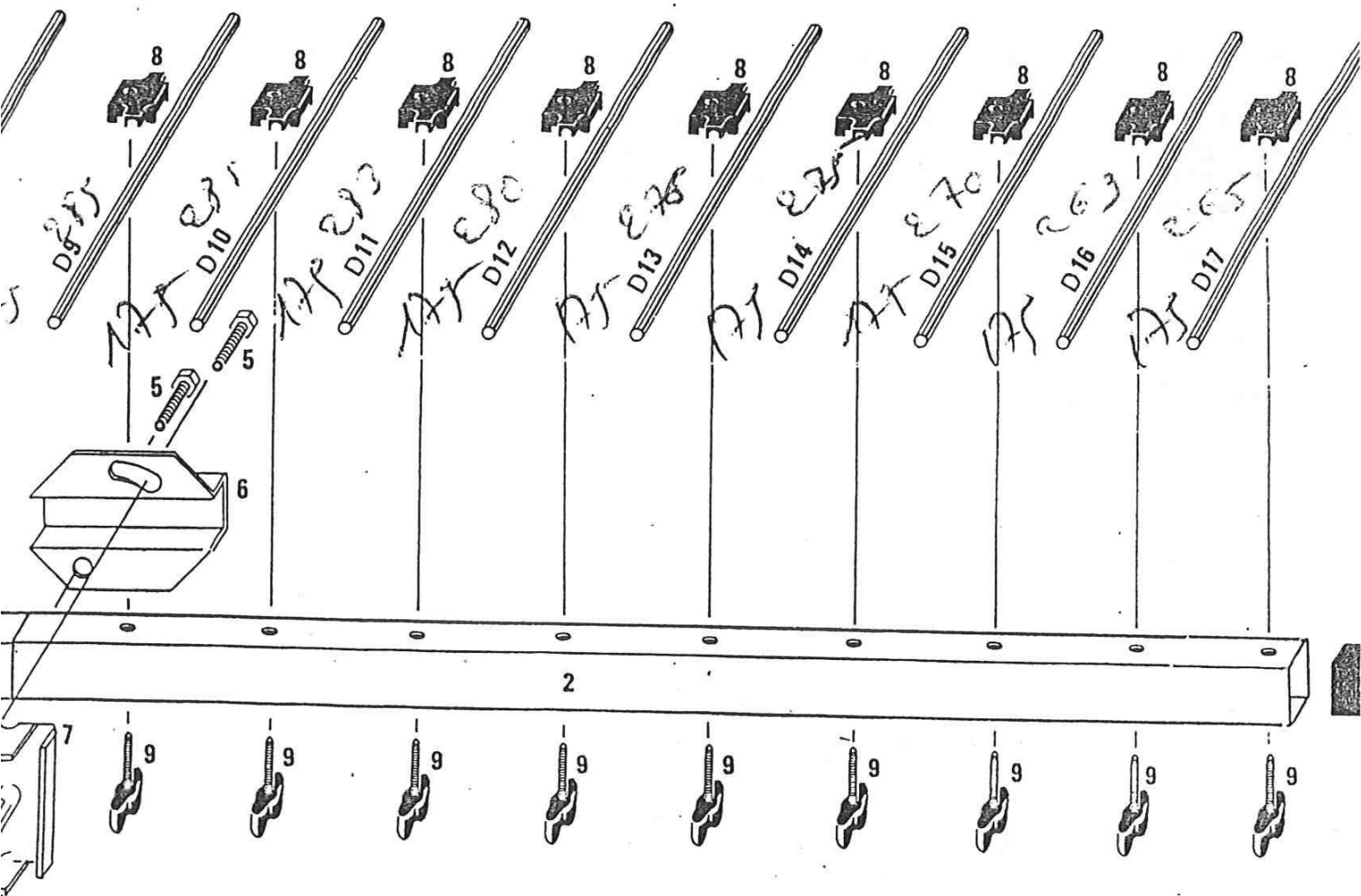
Coaxial cable must run under the boom and rear supporting leg, taping occuring two or three times along the rear boom section.

BOOM ASSEMBLY

Loosen the boom attaching gusset (#6), slide the two boom sections into the gap, and then, tighten gusset with screws #5. Make sure the elements are in the correct plane (this depends upon which operating polarization is choosen). The purpose of the slashed hole on the gusset is to allow some upward tilt of the antenna, whenever required. Position of the slashed hole is correct when the antenna can move upward from horizontal.

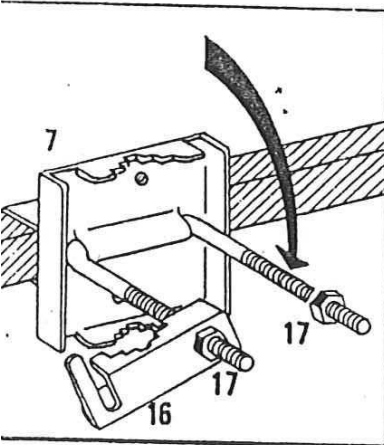
Proper position of the main plate (#7) is when the tightening U-bolt (#15) remains horizontal on the stops provided in that plate (see medalion B2).



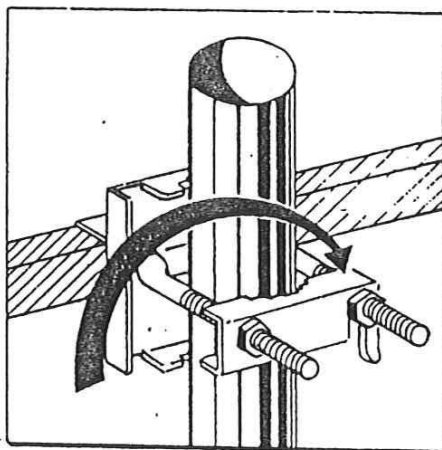


Beam = 2,84m

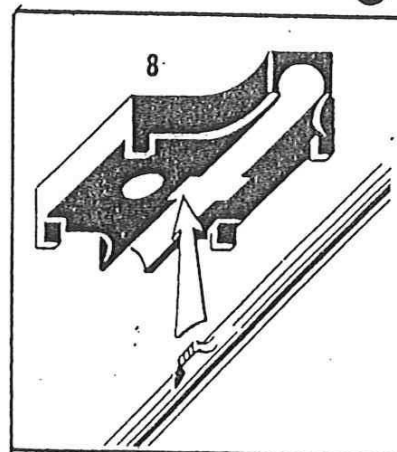
B2



B3



C



ANTENNES TONNA S.A. 132 Boulevard Dauphinois 51100 REIMS FRANCE

DIAGRAMME DE RAYONNEMENT CALCULE: 19 ELEMENTS YAGI

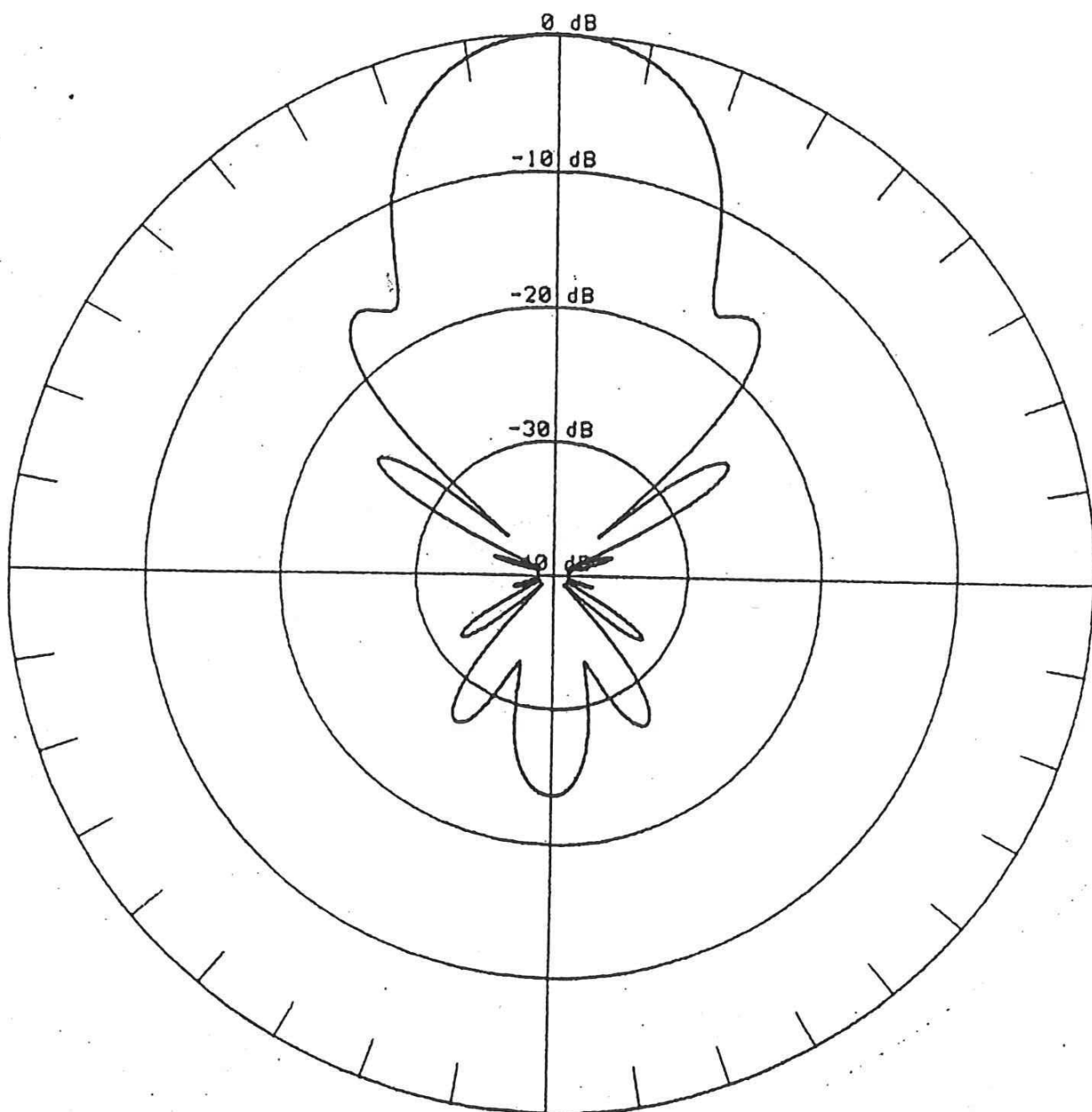
FREQUENCE: 432.0 MHz

PLAN: E

GAIN CALCULE : 16.20 dB Iso

RAPPORT ARR./AU. : -23.56 dB

ANGLE D'OUVERTURE A -3dB : 2 x 14.76 deg.



ANTENNES TONNA S.A. 132 Boulevard Dauphinot 51100 REIMS FRANCE

DIAGRAMME DE RAYONNEMENT CALCULE: 19 ELEMENTS YAGI

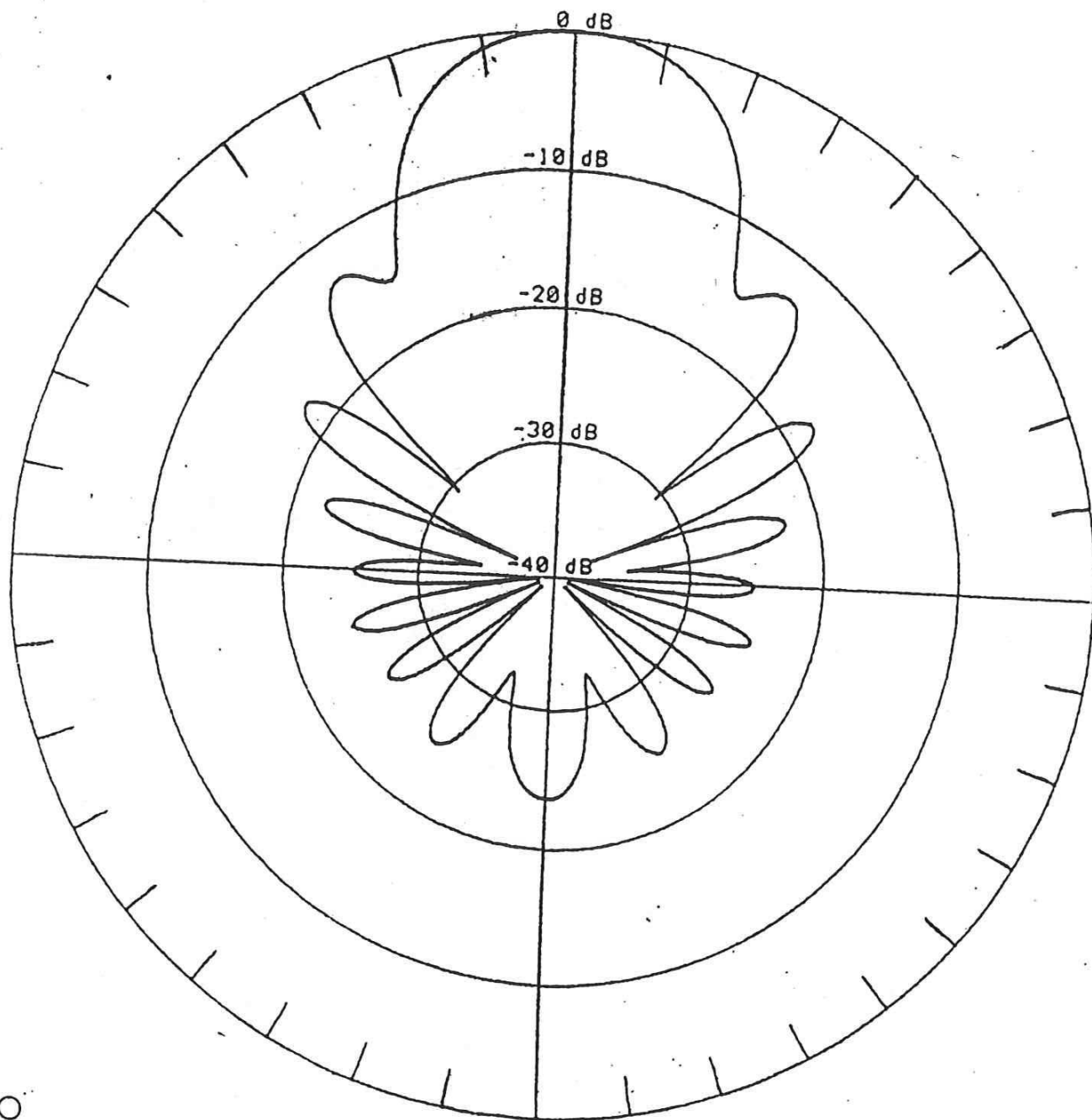
FREQUENCE: 432.0 MHz

PLAN: H

GAIN CALCULE : 16.20 dB Iso

RAPPORT ARR./AV.: -23.56 dB

ANGLE D'OUVERTURE A -3dB : 2×15.73 deg.



ANTENNES **TONNA** 132 blvd DAUPHINOT 51100 REIMS
FRANCE