

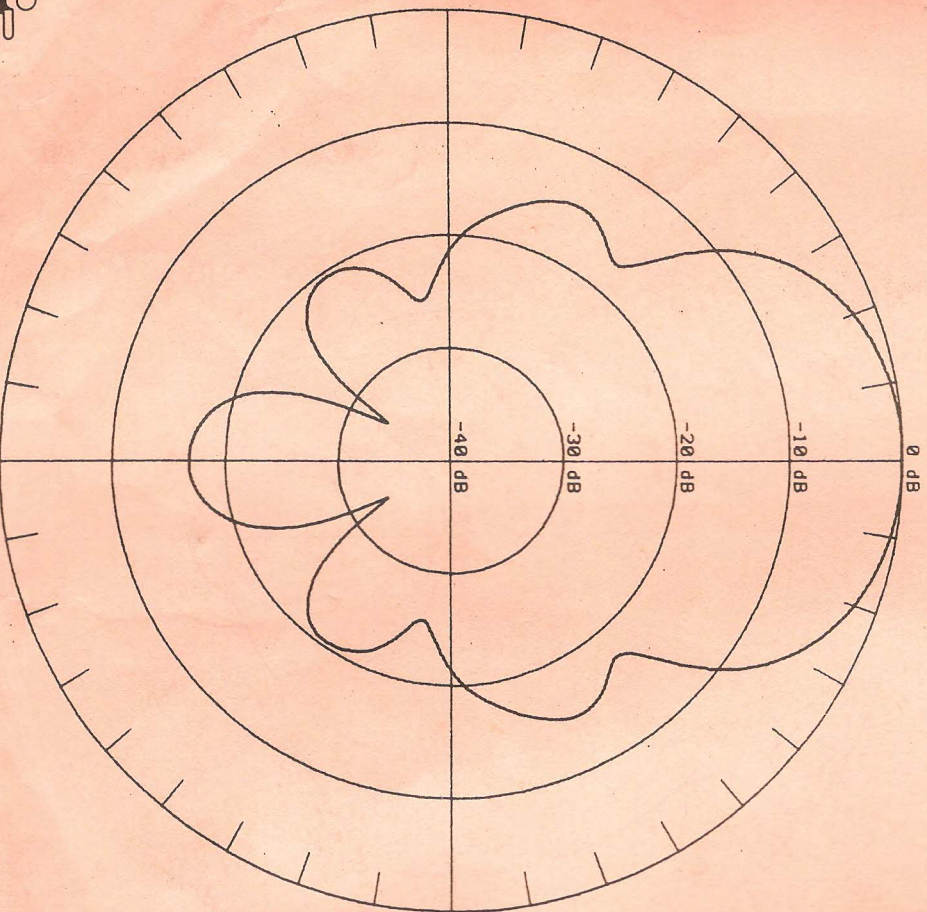
ANTENNES TONNA S.A. 132 Boulevard Dauphinot 51100 REIMS FRANCE


DIAGRAMME DE RAYONNEMENT CALCULE : 9 ELEMENTS YAGI

FREQUENCE : 432.0 MHz PLAN : H

GAIN CALCULE : 13.03 dB iso RAPPORT ARR./AV. : -16.81 dB

ANGLE D'OUVERTURE A -3dB : $2 \times 23.65^\circ$.



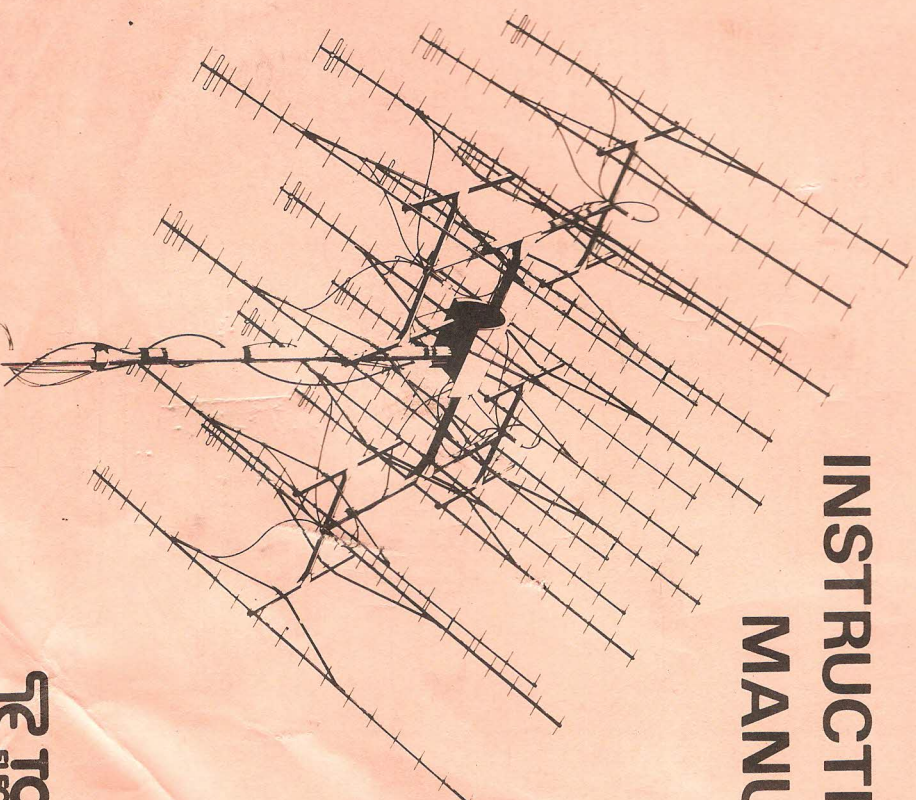
 ANTENNES **TONNA** 132 bld DAUPHINOT 51100 REIMS FRANCE



ANTENNES
TONNA

435 MHz 9 ELEMENT

**INSTRUCTION
MANUAL**



 **TONNA**
ELECTRONIQUE

ASSEMBLY INSTRUCTIONS

435 MHz 9 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 (#4 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 (#5 on diagram). DO NOT OVERTIGHTEN THIS SCREW !!

On each element is provided a centering bump which must fit inside the centering cavity of the holder (See arrow on medalion A). First snap the holder on the element, taking care for proper centering, and mount the holder on the boom, with screw #5. 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 D7 (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.

BOOM TO MAST ASSEMBLY HARDWARE

Mount the boom to mast assembly hardware on the boom, behind the reflector. Loosen the boom attaching gusset (#7), slide the boom into the gap, and then, tighten the screws #6. Make sure the elements are in the correct plane (this depends upon which operating polarization is chosen). 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 (#8) is when the tightening U-bolt (#9) remains horizontal on the stops provided in that plate (see medalions B1, B2, B3).

FEED-LINE AND DRIVEN ELEMENT

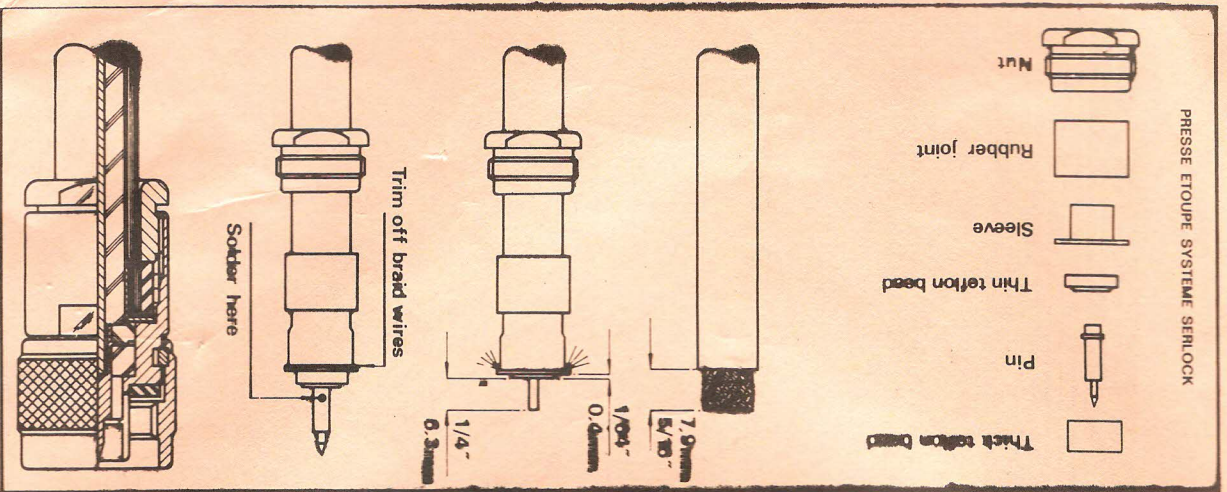
The feed-line is connected to the driven element (DIP) with a watertight type N connector set. The driven element is fitted with a built-in standard UG58A/U female receptacle. A standard UG21B/U male connector is delivered as accessory with the antenna. Use RG213/U, or better coaxial cable whenever available.

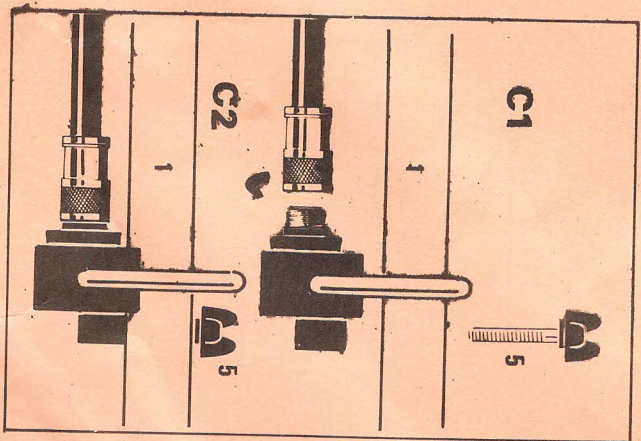
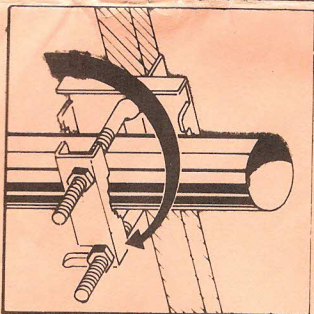
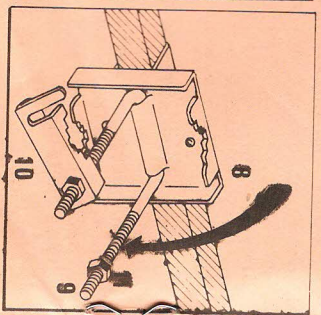
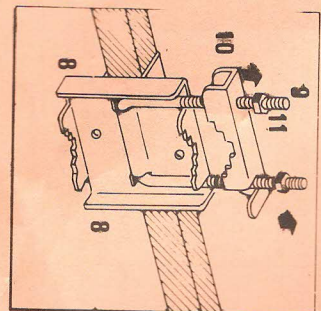
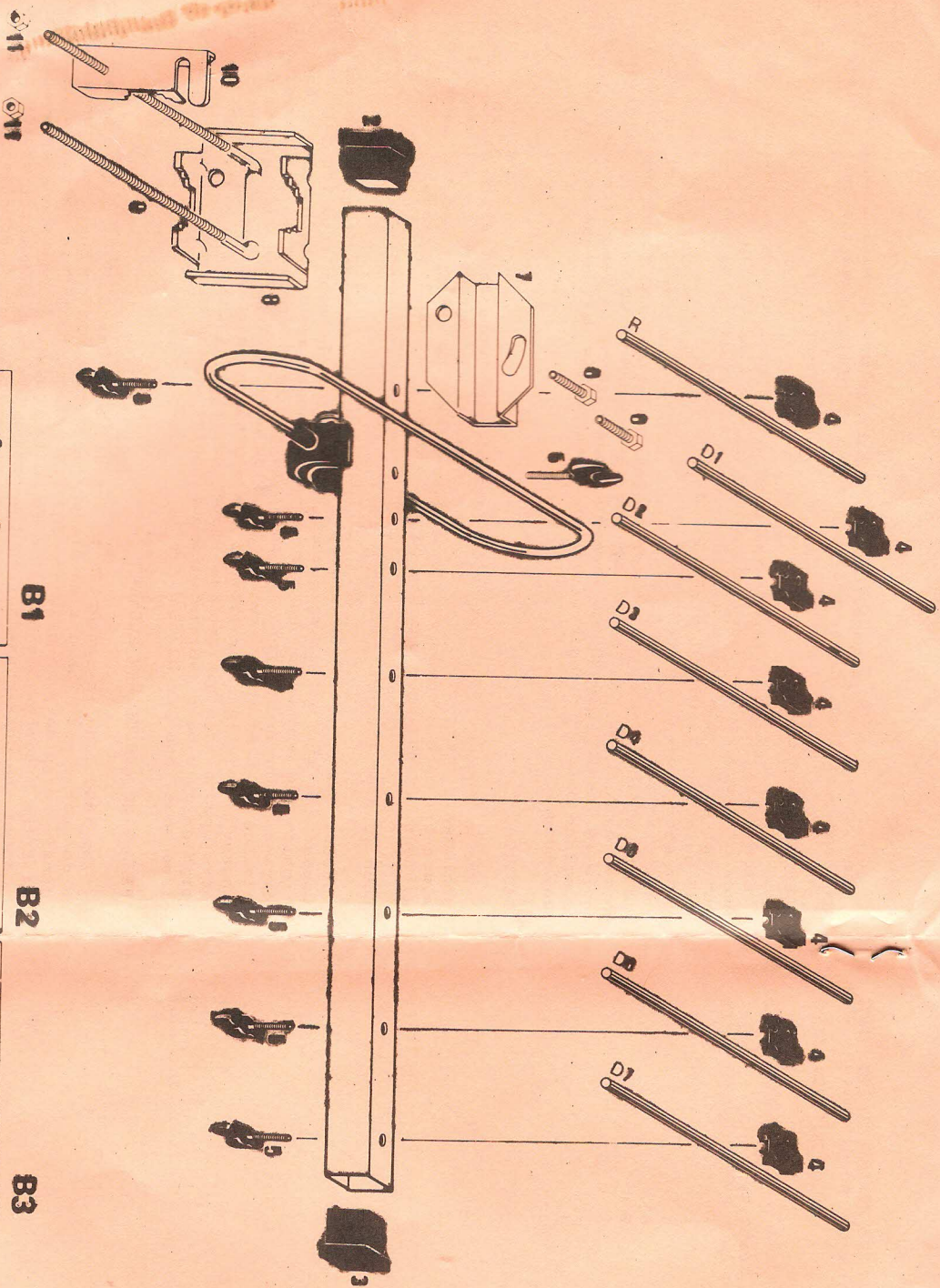
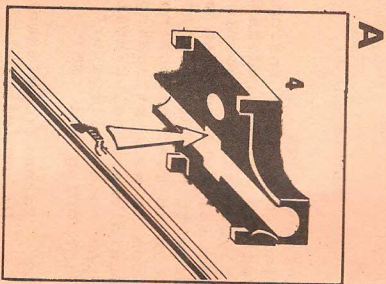
Mount the coax connector on the coax cable (See connector sketch for proper mounting on cable). Put the driven element case above mounting hole, and tighten with the wing screw #5. Screw in the UG21B/U connector on the UG58A/U receptacle.

Coaxial cable must go behind the driven element, and run along the mast. See general antenna sketch for proper orientation of driven element.

MOUNTING OF ANTENNA TO MAST

The maximum useful mast outer diameter is 54 millimeters (2" 1/8"). Untight the M6 nuts #11 and open the clamp #10 as shown on sketch. Introduce the mast in the U-Bolt #9, close the clamp #10 and firmly tighten the nuts #11 (see medalions B1, B2 and B3).





OPERATING HINTS

It is recommended to keep the antenna in local dominant wind direction, when not in use.

PART AND HARDWARE LIST

| Diagram # | Description | Quantity |
|---------------|---------------------------------------|----------|
| 1 | Antenna boom | 1 |
| 2 | Black cap (rear indicator) | 1 |
| 3 | Red cap (front indicator) | 1 |
| 4 | Polycarbonate element holder | 8 |
| 5 | Special self tapping screw | 9 |
| 6 | Boom to mast tightening screw (M6x15) | 2 |
| 7 | Boom to mast attaching gusset | 1 |
| 8 | Boom to mast attaching main plate | 1 |
| 9 | Stainless steel U-bolt M8x80 | 1 |
| 10 | Open hole "alligator" clamp | 1 |
| 11 | Tightening nut (M6) | 2 |
| R, D1 thru D7 | Parasitic elements | 8 |
| DIP | Driven element | 1 |
| ACCESSORY | | |
| | TYPE "N" MALE CONNECTOR U21B/U | 1 |

NOTE: The company ANTENNES TONNA S.A. reserves for itself the right for modifying its products, without notice.

ANTENNES TONNA S.A. 122 Boulevard Dauphinois 51100 REIMS FRANCE

DIAGRAMME DE COMPOSANTS CALCULÉ 9 ELEMENTS YAGI

FREQUENCE: 437.0 MHz P.M.H.I.E

SWR CALCULÉ : 13.03 dB 100 PERCENT SWR/MU, 1 -16.01 dB

ANGLE D'OSILLATION A -20 : 2 x 20.55 deg.

