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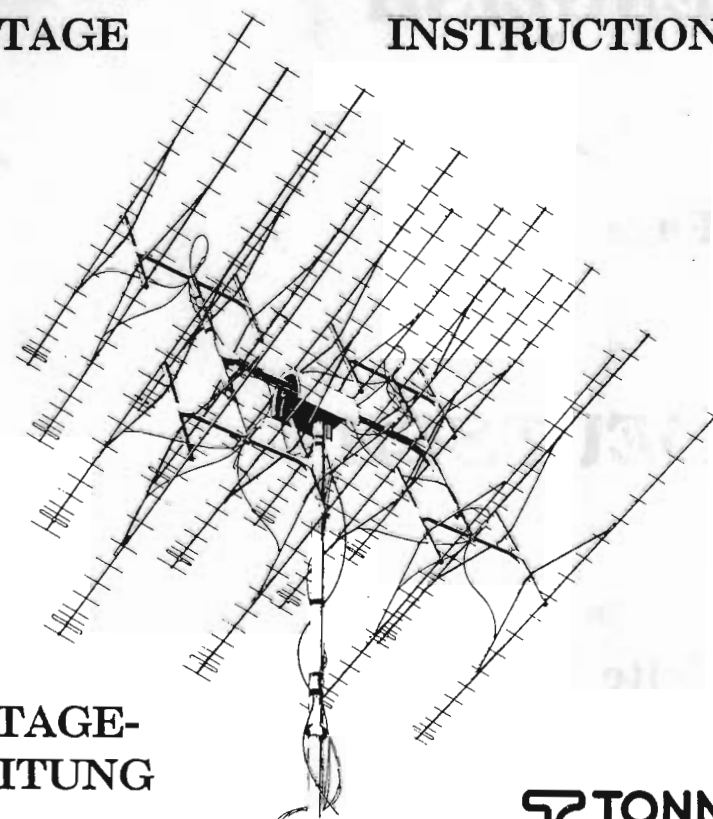


Antenne 35 éléments 1296 MHz ☒

Antenne 35 éléments 1255 MHz ☐

NOTICE DE
MONTAGE

ASSEMBLY
INSTRUCTIONS



MONTAGE-
ANLEITUNG



ELEMENT LENGTHS AND COLOR CODE TABLE

Element	Color code	1296 MHz		1255 MHz	
Reflector	black	115	4" 17/32	118	4" 21/32
Driven element *	(no color)	102	4" 1/32	106	4" 3/16
Director 1	brown	103	4" 1/16	107	4" 7/32
Director 2	red	98	3" 27/32	102	4" 1/32
Director 3	orange	96	3" 25/32	100	3" 15/16
Director 4	yellow	94	3" 11/16	98	3" 27/32
Director 5	green	92	3" 5/8	96	3" 25/32
Directors 6 to 8	blue	90	3" 17/32	94	3" 11/16
Directors 9 to 14	violet	88	3" 15/32	92	3" 5/8
Directors 15 to 18	grey	86	3" 3/8	90	3" 17/32
Directors 19 to 23	white	84	3" 5/16	88	3" 15/32
Directors 24 to 29	white / brown	83	3" 9/32	87	3" 7/16
Directors 30 to 33	white / red	82	3" 7/32	86	3" 3/8

*) delivered with built-in 840 mm (33" 1/16) long coaxial cable.

1269 MHz MODIFICATION TABLE

Element	Color code	1269 MHz		Remarks
Reflector	black	115	4" 17/32	Unchanged
Driven element	(no color)	102	4" 1/32	Unchanged
Director 1	(no color, from kit)	104	4" 3/16	New director 1
Director 2	(no color, from kit)	99	3" 29/32	New director 2
Director 3	red	98	3" 27/32	Old director 2
Director 4	orange	96	3" 25/32	Old director 3
Director 5	yellow	94	3" 11/16	Old director 4
Directors 6 to 8	blue	90	3" 17/32	Unchanged
Directors 9 to 14	violet	88	3" 15/32	Unchanged
Directors 15 to 18	grey	86	3" 3/8	Unchanged
Directors 19 to 23	white	84	3" 5/16	Unchanged
Directors 24 to 29	white / brown	83	3" 9/32	Unchanged
Directors 30 to 33	white / red	82	3" 7/32	Unchanged

New director refers to directors supplied in the 1269 MHz modification kit. They are not normally used in the standard 1296 MHz configuration.

Old director refers to directors used in both configurations, but not at the same place on the antenna boom.

In the 1269 MHz configuration, brown director (103 mm) and green director (92 mm) are not used, and new director 1 fits in the red marked hole (see 1269 MHz modification sketch. In dotted line: 1296 MHz position of D1).

1296 MHz 35 ELEMENT ANTENNA, Part #: 20635
1255 MHz 35 ELEMENT ANTENNA, Part #: 20636

IMPORTANT

When opening the package, check and compare all parts and hardware with enclosed part list.

ELEMENT ASSEMBLY

For best efficiency, it is necessary to keep the elements at some distance from the boom (see pictorial diagram). Refer to close-up A. Place element in stand-off (A1). With a small hammer, slightly knock the free tip of the element, to thrust the element through the hole (A2). Slide the element until proper centering is reached (A3). Operation must be carried out with utmost care, to avoid any unwanted bending of elements.

ANTENNA ASSEMBLY

The red plastic cap indicates the front of the antenna, the black cap, the rear. Directors are counted up from rear to front.

1) Boom and supporting leg assembly: The boom consists in three part: the rear section (#1) fitted with a black plastic cap (#5); the rear end of the central section (#2) and the front end of the rear section (#1) are marked with color tape; the front section (#3) is fitted with a red plastic cap (#6).

Mount supporting leg on central boom section (#2), using clamps #7 and M5x40 screws #8. Make sure rear end of leg (black cap) is mounted on rear end of central boom section (color marked end). In the clamp gaps, slide front boom section (#3) and rear boom section (#1) down to stop. Then tighten the clamps. (See pictorial diagram and close-up D)

2) Element to boom assembly: all elements are marked with different colors (refer to pictorial diagram and color code in element table). Refer to close-up B for proper mounting of stand-off on boom. Make sure the bump of the stand-off correctly fits into the positioning hole.

CAUTION! The reflector is the longest element; each successive director is either the same, or shorter than the prior director. Make sure all directors are correctly mounted by checking the color order, according to color code. If the elements are not properly mounted, performance of the antenna may be drastically reduced.

3) Driven element (folded dipole) assembly: A short piece of coax cable (RG213/U) is factory mounted and cut to proper length for stacking purposes (see "stacking" clause, further in text). Do not change this length! Run the coax through the 11 mm (7/16") hole and attach the driven element with the special screws #15 (close-up D).

4) **Antenna to mast clamp set assembly:** The mast clamp set assembly (#9 to #14) is delivered factory mounted. Remove plate #10 and slide it on supporting leg (see pictorial diagram and close-up C). Adjust position for proper balance. Tighten screws # 9. U-bolt #12 and clamp #14 still remain loose.

ATTACHING THE FEED LINE

A very high quality, professional type, coax cable must be used. Remember the RG213/U exhibits a loss of 29 dB/100 m (8.8 dB/100 feet) at 1300 MHz. If better coaxial cable is available, use it. A type N connector (UG21B/U) must be mounted at the end of the short length of coax, running out of the driven element. **CAUTION!** the connector must be mounted **ONLY ONCE** the coax line has been run through the 11 mm (7/16") ϕ mounting hole!!

For stacking purposes, this length is an integer number of electrical half-wavelengths, and is the same on all manufactured antennas; make sure not to cut this length!! For proper assembly of the coax connector, refer to connector mounting instructions, for the UG21B/U.

On the main feed-line (RG213/U or better), a type N female connector (UG23B/U) must be used. If bigger coax line is used, use a special connector matched to this cable, with UG23B/U-like standard outfit.

MOUNTING OF ANTENNA TO MAST

CAUTION! No piece of mast or tubing must be run through the element plane. Performance may be reduced! It is recommended that the antenna be mounted on top of the mast, or, if not possible, along the mast using an auxiliary supporting L-shaped mast, about 40 cm (15") long minimum. Masts up to 54 mm (2" 1/8) diameter are accepted by the attaching clamp set (close-up C).

It is recommended that the antenna be placed in direction of dominant winds when not in use.

OPTIMIZED 1269 MHz OPERATION

The 1296 MHz version of this antenna (part #: 20635) can be used without any modification on the Satellite mode L uplink frequency, i.e. 1269 MHz.

But if the antenna is to be used only for satellite operation, the SWR performance at 1269 MHz can be improved by modifying the design as follows.

From the standard 1296 MHz version, two elements must be replaced (see 1269 MHz kit bag) and position of Director 1 must be changed (see 1269 MHz modification sketch. In dotted line: 1296 MHz position of D1).

STACKING

To simplify stacking set-up, the factory built-in short length of coaxial cable is part of the phasing harness itself. In order to put the antennas in phase, make sure the plastic injection studs (see Q, on close-up E), on the driven element case, **ALL FACE** to the **SAME SIDE**. A special quarter wave power splitter is available in two versions: Two antenna stacking: two 50 Ω inputs, one 50 Ω output: part #: 29223. Four antenna stacking: four 50 Ω inputs, one 50 Ω output: part #: 29423. Combination of those splitters allows phasing of 8, 16, or more antennas. Optimum recommended spacings: 820 mm (32") in both planes, for both 1255 MHz and 1296 MHz, from center of element to center of element.

A complete four bay system consisting of:

4 antennas, part #: 20635 or 20636,

1 four port power splitter, part #: 29423,

1 stacking frame kit, part #: 20026,

is available under part #: 20640 for the 1255 MHz version, and part #: 20644 for the 1296 MHz version.

PART LIST

Part #	Description	Quantity
1	Rear boom section	1
2	Central boom section	1
3	Front boom section	1
4	Supporting leg	1
5	Black plastic cap (rear)	2
6	Red plastic cap (front)	2
7	Supp. leg to boom attaching clamp	4
8	M5x40 stainless steel screw	4
9	M6x10 stainless steel screw	2
10	Antenna to mast tightening plate	1
11	Antenna to mast mounting plate	1
12	M6 threaded U-bolt	1
13	M6 stainless steel nut	2
14	Tightening <i>alligator</i> clamp	1
15	Driven element mounting screw	2
16	Element mounting plastic stand-off	34
	Type "N" male connector UG21B/U	1

BAG CONTENTS

First bag contains all elements, driven element mounting screws # 15 and type N male connector UG21B/U.

Second bag contains all 34 plastic stand-offs.

Third bag contains necessary hardware for antenna assembly (parts # 7, 8, 9, 10, 12, 13, and 14).

Fourth bag contains 1269 MHz modification kit.

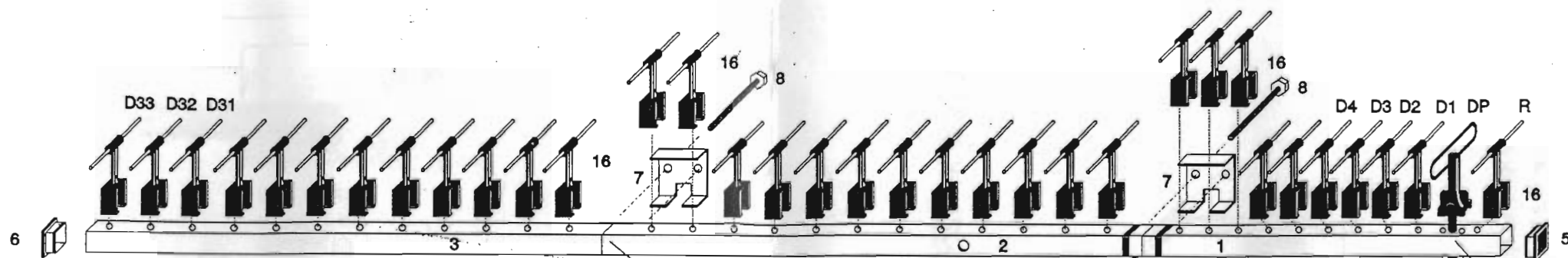
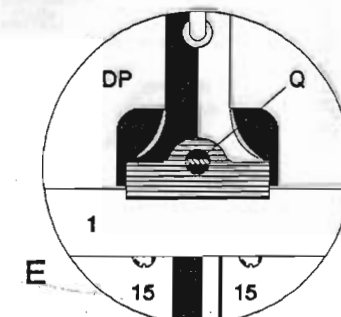
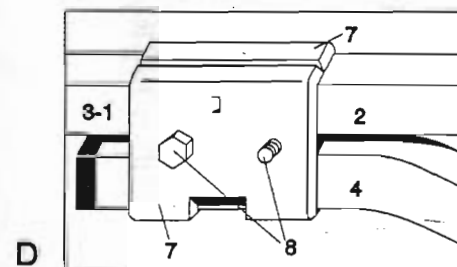
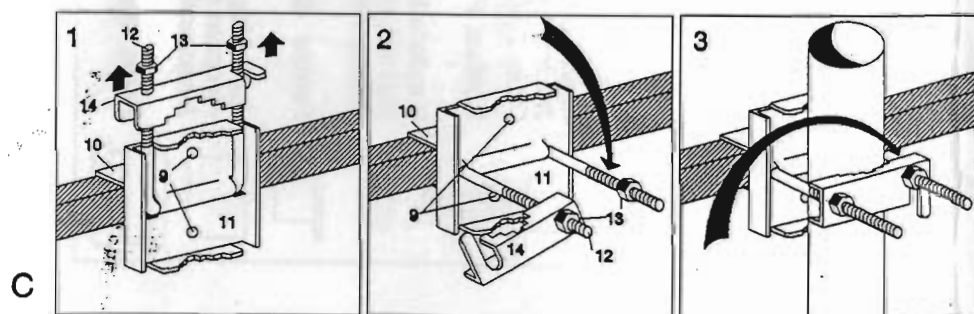
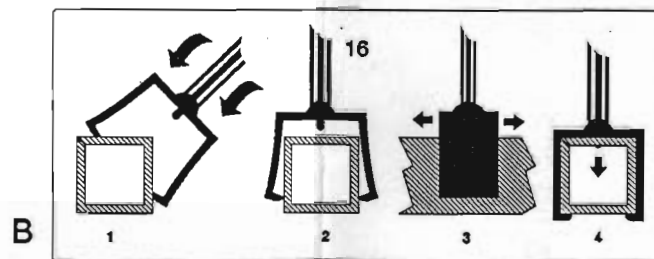
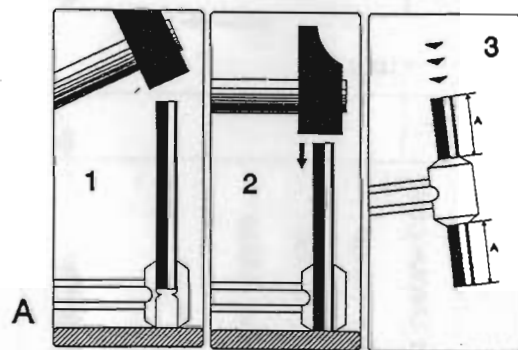
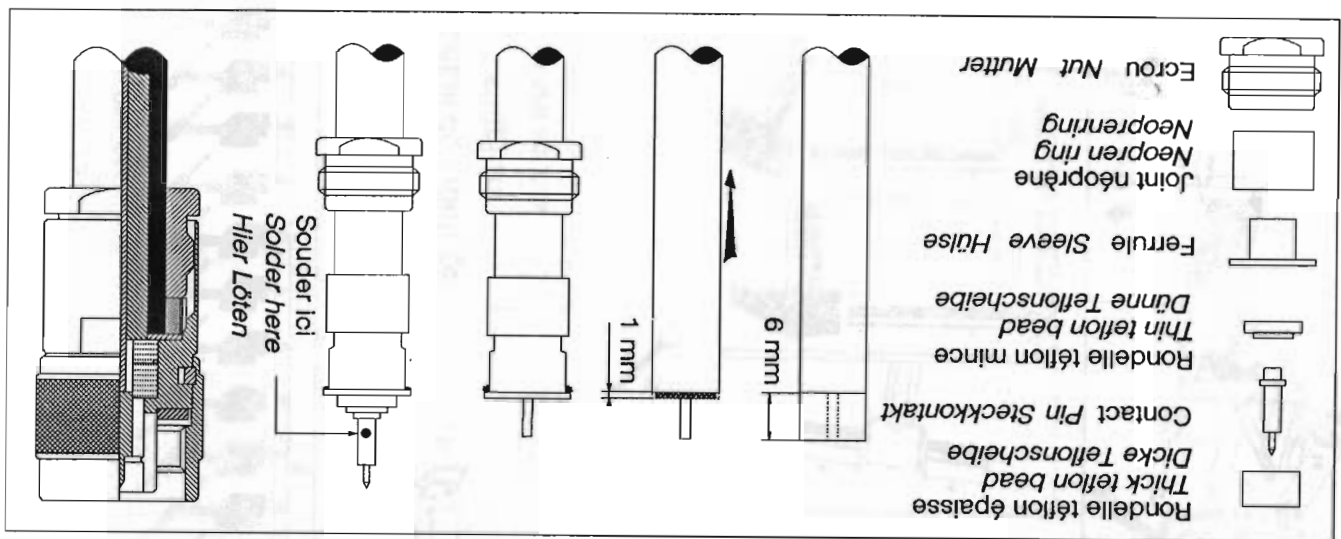


Schéma de montage
simplifié
sans échelle

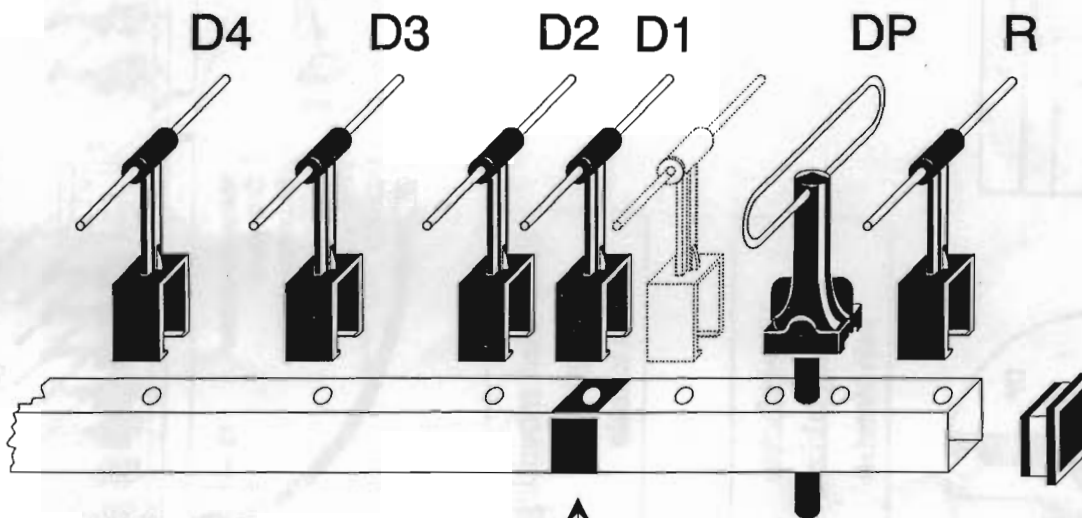
Simplified mounting
diagram
not to scale

Vereinfachte
Montageskizze
kein Masstab





Modification 1269 MHz 1269 MHz modification 1269 MHz Veränderung



Ne concerne que la version 1296 MHz
Only refers to 1296 MHz version
Betrifft nur die 1296 MHz Ausführung

Marquage couleur rouge
Red color mark
Rote Farbmarkierung