

# DXS3-40

10/15/20 and 40 Meters



ASSEMBLY/INSTALLATION



Thank you for purchasing our products. Be sure to read the manual, it is important to know the product better to get the most out of it.

## **THE ANTENNA PARTS**

- The boom has 2 parts.
- The larger “u” clamps are the supports for the elements.
- Take a good look at all the components and familiarize yourself with them.
- Aluminum tubes are identified with colors

-GREEN – DIRECTOR (D)

-RED – DRIVE (I)

-BLUE – REFLECTOR (R)

## **REQUIRED TOOLS**

- Assembly

Few tools required for assembly are these:

- Spanners, 10/11 mm and 12/13 mm and set Phillips screwdrivers
- 5 m tape measure
- Soldering iron

- Connection

The connection of the coaxial cable is of the “open” type, strip the coaxial cable approximately 10 cm, separate the mesh from the center of the cable, and solder the terminals that come with it.

Use self-amalgamating tape to protect the terminals and the cable from rainwater.

## CHOOSING THE BEST LOCATION

- The installation location is very important.
- Make a plan of all the actions you will take to install the antenna, if necessary, ask for help from professionals.
- Choose the location looking for the greatest distance from trees, metal structures, power lines, other antennas, distance from people, etc. The proximity of these elements can reduce efficiency and make installation difficult.

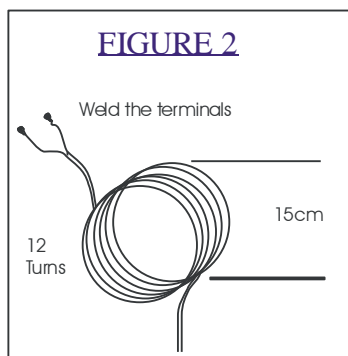
## IMPORTANT

**- Don't forget the security procedures.**

## ASSEMBLY

Assemble the DXS3-40 following the instructions as per the diagrams and illustrations, assemble the boom first, then the elements, place the elements on the boom, make the alignment, connect the coaxial, measurements and adjustments and finally attach to the mast.

The cable connection is open type, see the shock detail in figure 2, it can be done with the coaxial cable itself, strip 10 cm and separate the wires, solder the terminals and leave only 20 cm of space until the start of the shock, they are 12 turns in a diameter of 15cm, use a form for the turns to be well made and parallel, DO NOT use cell cables as the dielectric is made of foam and can deform when making the turns, thus altering the impedance, impairing the functioning.



## ADJUSTES

If there is a need for adjustments, make small adjustments to the drive element in 1 band at a time, increasing if you want to lower the resonance frequency or decreasing if you want to up the resonance frequency, as the adjustment of one band can interfere with the adjustment of another band, always mark what you are doing and then put the same measurement on the other side of the antenna.

Use a good meter that is reliable. Stay away from the antenna during measurements as your body can cause an erroneous reading. A SWR of 2:1 or less is satisfactory and will not decrease efficiency, if greater than 2:1, do a general check on measurements, position of traps and connections.

The SWR check must be done with the antenna pointed upwards and preferably supported on something insulating 50cm from the floor (it can be a wooden box, a chair, etc. Measurements with the antenna close to the ground are wrong and will not hold up when raising the antenna.

The ideal height for installation is  $\frac{1}{2}$  wave from the ground or buildings, if you do not have this possibility, use  $\frac{1}{4}$  wave or at least  $\frac{1}{8}$  wave, however the efficiency and bandwidth can be changed.

Remember, bigger antenna, lower frequency or smaller antenna, higher frequency.

Find the resonance point on the antenna (smallest SWR) and use this reminder to see if you need to raise or lower the antenna to get the frequency you want as the center.

Raise the antenna and, if necessary, repeat the operations, the time invested in the adjustments returns in quality of operation.

## LIST OF COMPONENTS AND PARTS BY SECTION

### REFLECTOR – (BLUE)

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QTY</b>
1	ALUMINUM PIPES 1 1/8" 1ª SECTION	01
2	ALUMINUM PIPES 1" 2ª SECTION	02
3	1ª TRAP (BLUE TAPE)	02
4	2ª TRAP (BLUE TAPE)	02
5	ALUMINUM PIPES 3/4" (FINAL)	02
GU1	"U" BOLT	01
APE	SUPPORT ELEMENT	01
EC	RUBBER COVER 3/4	02
A1	CLAMP	02
A2	CLAMP	04

**DRIVE – (RED) Leave with 10cm of space between the elements.**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QTY</b>
7	ALUMINUM PIPES 1 1/8" 1ª SECTION	02
8	ALUMINUM PIPES 1" 2ª SECTION	02
9	1ª TRAP (RED TAPE)	02
10	2ª TRAP (RED TAPE)	02
11	3ª TRAP (YELLOW TAPE)	02
12	ALUMINUM PIPES 5/8" 6ª SECTION (CAPACITIVE)	02
C	SOLID ALUMINUM 1/4" CROSS	02
13	ALUMINUM PIPES 1/2" (FINAL)	02
SP	DRIVE SUPPORT "U"	01
TB	INSULATOR PEAD	04
GU1	"U" BOLT WITH SUPPORT	01
A1	CLAMP	04
A2	CLAMP	06
A3	CLAMP	02
EC	RUBBER COVER 1/2"	02
EC	RUBBER COVER 1/4"	04
CS	SUPPORT STRING	01
	STRING 4M	02

**DIRECTOR (GREEN)**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QTY</b>
14	ALUMINUM PIPES 1 1/8" 1ª SECTION	01
15	ALUMINUM PIPES 1" 2ª SECTION	02
16	1ª TRAP (BLUE TAPE)	02
17	2ª TRAP (BLUE TAPE)	02
18	ALUMINUM PIPES 3/4" (FINAL)	02
GU1	"U" BOLT	01
APE	SUPPORT ELEMENT	01
EC	RUBBER COVER 3/4	02
A1	CLAMP	02
A2	CLAMP	04

**BOOM**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QTY</b>
GA	ALUMINUM CONNECTION	01
GB	2" BOOM	02
CP	RUBBER COVER	02
P	SCREWS 1/4" X 2 1/2"	4

**MAST SUPPORT**

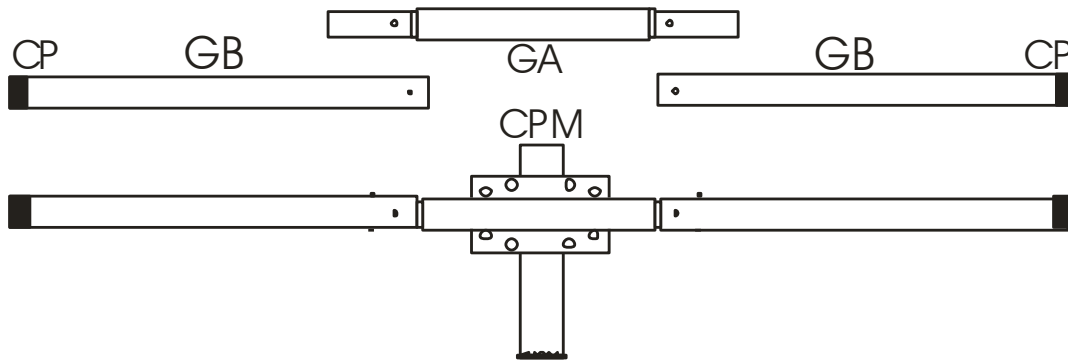
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QTY</b>
CPM	ALUMINUM PLATE	01
GBB-U51	"U" BOLT WITH LOW SUPPORT	04

## STRING SUPPORT

ITEM	DESCRIPTION	QTY
1	ALUMINUM PIPES 3/4"	02
2	ALUMINUM PIPES 7/8"	02
AB	CLAMP 7/8"	02
SP	STRING SUPPORT	02
CP	RUBBER COVER 3/4"	02
GBB-U51	"U" BOLT WITH LOW SUPPORT	02

## BOOM ASSEMBLY

-Fit the tubes GB using the splice GA, secure the mast fixing plate CPM and after final assembly look for the balance point which is close to from element driver.



### Fixing the element to the boom:

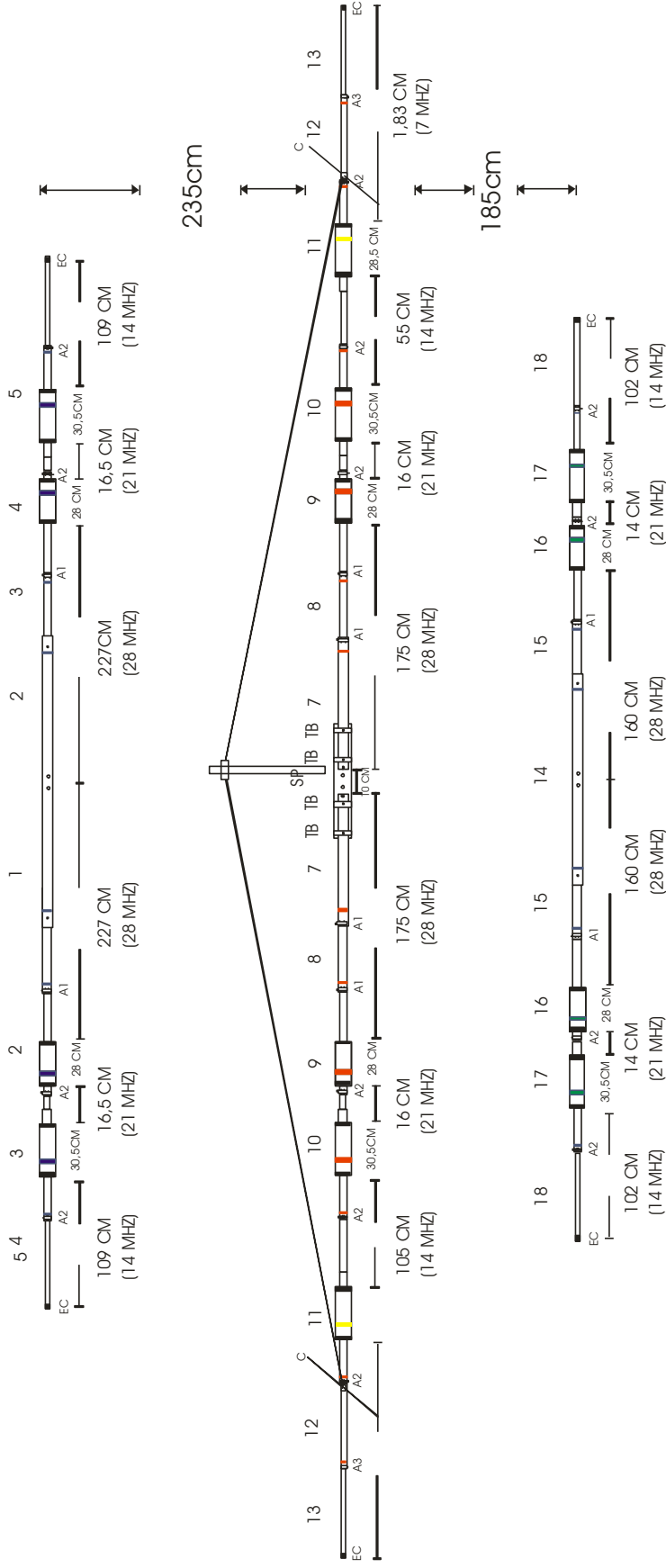


# ASSEMBLY THE ANTENNA

-SEPARATE THE ITEMS FOR EACH ELEMENT.

-The elements must be assembled and positioned according to the drawing below

**ATTENTION: WATER OUTLET HOLES FACING DOWN**



-Proceed with the measurement and permanently attach it to the mast and GOOD DX.

### ATTENTION

If you want to disassemble the antenna, mark the elements again according to the manual, to facilitate the reassembly.

## SPECIFICATIONS

MODEL	DXS3-40
BAND	10/15/20m and 40 m
GAIN	8 dBI and 2,4 dBI
F/B	25 dB and 0
2:1 SWR BANDWIDTH	+ 500khz (10/20m) +180 khz(15/40m)
MAX. INPUT POWER	1500 W PEP
BOOM	4,40m
> ELEMENT	10,50m
TURNIG RADIUS	5.80m
MAST DIAMETER	1.¼” to 2”
WIND-LOAD AREA	0,58 m <sup>2</sup>
WEIGHT	19 Kg

The contents of this manual are subject to change without notice.

## WARRANTY

Diex antenna products are guaranteed for One year against manufacturing defects, Diex may repair or replace parts or all of the product at its own discretion within the warranty period. Damage caused by lightning, falling, forces of nature, misuse, installation by an unqualified person, i.e., improper, negligent or incorrect assembly is not covered by the warranty.

Products that undergo any adaptation or alteration or repairs by unauthorized service automatically void the warranty.



Manual DXS3-40 FE