

DXM140

40M ANTENNA



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

ASSEMBLY AND INSTALLATION INSTRUCTIONS

1. GENERAL INFORMATION

DIEX manufactures a range of antennas designed and produced to give top performance and reliable long lasting service. They are completely manufactured of non-corrosive materials. The antennas come partly factory-assembled in order to facilitate and expedite your labor.

1.1. Introduction and Description

This manual explains how to assemble the DIEX DXM SERIES. The DXM140 is a bidirectional antenna that covers the HF spectrum between 7 – 7.5 MHZ (tunable). It can be used with the full power of 2000 W PEP.

1.2. Owner Assistance

If assistance or service is needed, your local dealer should be contacted first. In the unlikely event, you need further information you may get in touch with DIEX by email.

e-mail: diexantennas@gmail.com

1.3. Specifications

MODEL	DXM140
BAND	40m
GAIN	2,4 DBI
2:1 SWR BANDWIDTH	+ 200kHz
MAX. INPUT PWR	2000 W PEP
>ELEMENT	1150 cm
TURNING RADIUS	600 cm
MAST DIAMETER	<50mm
WIND-LOAD AREA	0,20 m ²
WEIGHT	4,8 Kg

1.4. SAFETY FIRST!

Get acquainted with and observe strictly the requirements and instructions of your local legislation. Direct grounding of the antenna and the tower structure is essential as protection from lightning strikes and static electricity. The entire earth-connection system must meet your local standard requirements.

Do not install the antenna close to power lines and cables, as their proximity, arc-over or contact with them during assembly, installation, and exploitation is hazardous and can be lethal.

Do not work alone! You must have at least one assistant always when you work on the antenna. If you have any doubt concerning the safety, please consult your dealer or engage a professional company.

1.5. Location

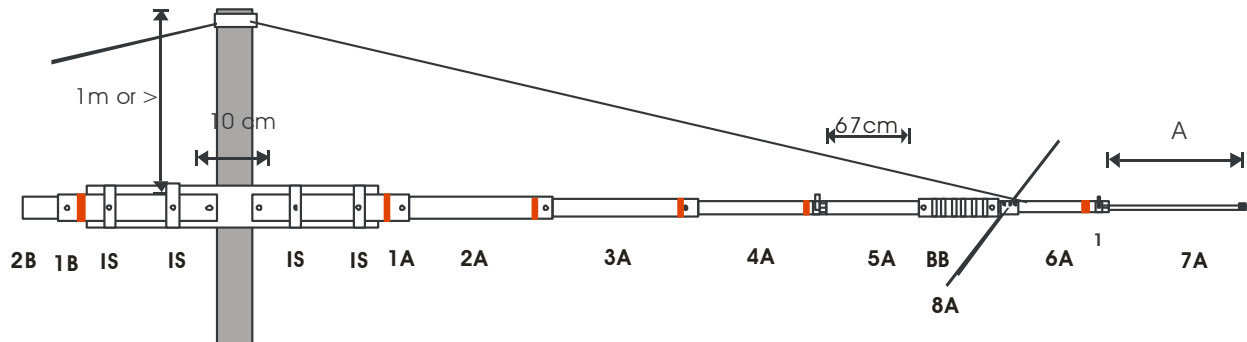
The antenna should be mounted on a support tower structure at a height between 10 and 15 meters (33-50ft) above the ground level. It must be located in the clear, away from trees, power installations, buildings, other antennas etc. Such objects can be dangerous and they can reduce the antenna efficiency or cause interference. If metal guy wires are used for the tower, they should be broken electrically with strain insulators, at 2 meters (6 ft) apart or less.

1.6. Your first steps

The first step to installation is to fully read this manual. Then, carefully inspect the shipping cartons for any physical damage. DIEX ships antennas in highly protected containers, but it cannot assure that

mistreatment by shippers will not occur. If there is any such damage, notify your DIEX dealer immediately.
 Failure to do so may invalidate your warranty.
 Select a large and clear area to assemble the antenna.
 The DIEX production uses metric (European) system of measurement units.

2. ASSEMBLING



2.1- Installing insulators (IS) on the support (SP).

2.1.1 - Fix the screws (PS) inside the support (SP) in insulators (IS) that should be as Figure 1.

Figure 1



2.2 - Fixing elements in insulators.

2.2.1 - Enter the element (1) in insulators and lock with screws (PS) at the top of the insulators.

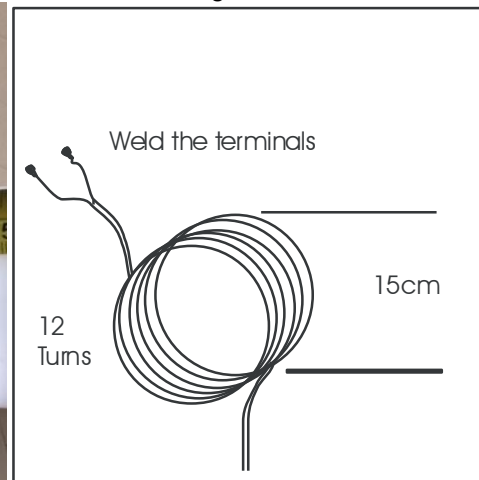
2.2.2 - Leave a space of 10cm between the elements 1A and 1B.

2.2.3 - Place the contact screws (PC) as shown in figure 2.

Figure 2



Figure 2.1



2.3 - Assembling the elements.

2.3.1 - Place the element 2 inside the element 1, 3 in the 2, 4 in the 3, 5 in the 4 and 7 in the 6. Use the screw (PE) and then attach the loading coil (BB) element in 5 and 6 use the screw (PB), put element 8 on 6 center and screw (figure 3.1), the last element 7 is adjustable with the clamp to the desired frequency 40m , -Adjust the swr through clamp 1, A= CW - 81cm (7,030) Phone - 77 cm (7,150) Middle - 79 cm (7,090) like the figure 3, put the caps (CP).

NOTE: Cover the loading coil with a tape layer of self-fusing or thermo-retractable (not include) to protect from the sun, exceeding 3cm out of the loading coil to the element.

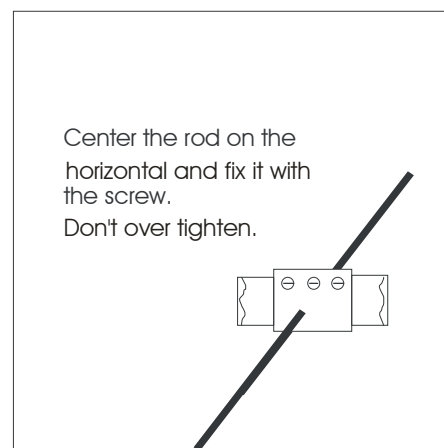
Due to the size the ends tend to go down, use non-metallic braces, fix them after the coil according to the drawing and on the mast at a height of 1 meter or more.

2.3.2 - The cable connection is open type, see the shock detail in figure 2.1, 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.

Figure 3



Figure 3.1



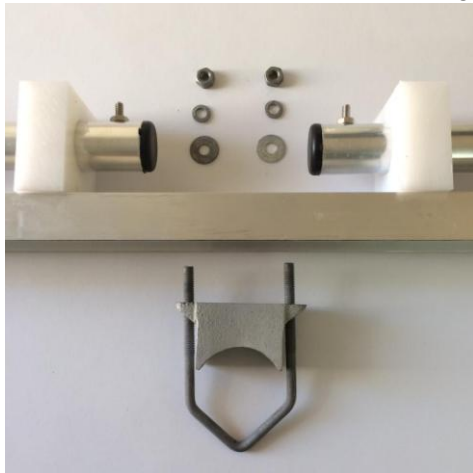
2.4 - Connecting the coaxial cable to the antenna.

2.4.1 - Separate the center of the cable loop about 10cm and solder the terminals (TM), connect the screws (PC) in the element 1 with nuts (NT), has no side seal well to prevent water from entering rain on the cable see in figure 2.

2.5 - Finishing the installation.

2.5.1 - Place the clip V in support as Figure 4/5 and install in mast in Maximum 50mm, attach the cable to the mast leaving off to avoid traction on the terminals.

Figures 4 / 5



2.5.2 - Perform the installation of the highest antenna possible and free of obstacles, other antennas, walls, etc. For optimum performance and good SWR install 10m height of the base of the antenna or at least 5.50m.

3 - Adjusting SWR

3.1 - With the antenna mounted and installed in the correct place, check SWR, note the frequency where it gets better on 40m

3.2 - In 40m where bandwidth is narrow, you must choose which frequency will be the center, knowing the frequency that will be the center and comparing it with the frequency at which the antenna is tuned, it is possible to adjust the size of the antenna on the clamps (1) for the frequency chosen as the center.

Antenna Frequency above the chosen; increase the antenna to lower the frequency. Going below the selected antenna, decrease the antenna to go up the frequency. The adjustment should be made on both sides of the antenna.

3.3.1 - Each 1cm equals about 40 khz.

3.4 - It is possible to use an antenna-tuner on the entire band of 40m.

3.5 - Try to use the antenna-turner on the other bands.

Good DX

Celso Melo Py2cm