HF/VHF (7/14/21/28/50MHz) Loading V type Dipole Antenna

HFV5

Operation Instructions

To use this antenna properly, read these instructions thoroughly before using the antenna. Keep this manual carefully at hand for later use.

Parts List

Plate x 1 0210001
Mast joint bracket x 2 0210002
Element holder x 2 0210004
Element x 2 0210005
Balun 0210003
Hexagonal wrench 0210019
Self melting plastic sealing tape

Screw M6 x 40
Nut
Washer x 5 0210018

7MHz loading coil x 2 0210007
Nut M5
Set screw M4 x 3
7MHz adjustment element x 2 0210012
14MHz loading coil x 2 0210008
14MHz adjustment element x 2 0210013
Nut M5
Set screw M4 x 3
21MHz loading coil x 2 0210009
21MHz adjustment element x 2 0210014
Nut M5
Set screw M4 x 3
28MHz loading coil x 2 0210010
28MHz adjustment element x 2 0210015
Nut M5
Set screw M4 x 3
50MHz loading coil x 2 0210011
50MHz adjustment element x 2 0210016
Assembly 1 (V type)

1. Assemble feedpoint section (Fig. 1)

2. Assemble wire to a terminal of balun (Fig. 2)

Assembly 2 (L type)

1. Assemble feedpoint section (Fig. 3)

The antennas are assembled as shown figures. (Fig. 5)
Assemble to a feedpoint section
1. Insert assembled element thoroughly into the element holder.

Assemble to a mast, balcony rail
Feedpoint section
Joint bracket
Mast
Washer Nut (M6)

Assemble to a balcony rail
Feedpoint section
Balcony, Rail etc.
Washer Nut (M6)

Fix over 30cm

*VSWR can not be lowered if the antenna is too close to the balcony rail, building etc.

2. Let both elements symmetrically and fasten the screws.
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Connect a coaxial cable to the balun. To make connector section waterproof, wrap around self-melting adhesive plastic tape supplied by stretching it about two times. Then wrap around conventional plastic tape to ensure it.

Standard adjustment element length

<table>
<thead>
<tr>
<th>Frequency</th>
<th>V type</th>
<th>L type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vertical</td>
<td>Flat</td>
</tr>
<tr>
<td>7 MHz</td>
<td>37 cm</td>
<td>37 cm</td>
</tr>
<tr>
<td>14 MHz</td>
<td>5 cm</td>
<td>5 cm</td>
</tr>
<tr>
<td>21 MHz</td>
<td>15 cm</td>
<td>16 cm</td>
</tr>
<tr>
<td>28 MHz</td>
<td>9 cm</td>
<td>10.5 cm</td>
</tr>
<tr>
<td>50 MHz</td>
<td>17 cm</td>
<td>18.5 cm</td>
</tr>
</tbody>
</table>

- The length in the list are as shown length.

Adjustment element length

The frequency change per 1 cm length is as follows:

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 MHz</td>
<td>About 40 KHz</td>
</tr>
<tr>
<td>14 MHz</td>
<td>About 160 KHz</td>
</tr>
<tr>
<td>21 MHz</td>
<td>About 200 KHz</td>
</tr>
<tr>
<td>28 MHz</td>
<td>About 340 KHz</td>
</tr>
<tr>
<td>50 MHz</td>
<td>About 300 KHz</td>
</tr>
</tbody>
</table>

- With longer element size, the frequency will move to lower side and shorter length move the frequency to higher level.

Specifications

<table>
<thead>
<tr>
<th>Frequency</th>
<th>7/14/21/28/50MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max power rating</td>
<td>150W SSB(7/14MHz)</td>
</tr>
<tr>
<td></td>
<td>220W SSB(21/28/50MHz)</td>
</tr>
<tr>
<td>VSWR</td>
<td>Less than 1.5</td>
</tr>
<tr>
<td>Impedance</td>
<td>50 Ω</td>
</tr>
<tr>
<td>Length</td>
<td>About 4 m</td>
</tr>
<tr>
<td>Weight</td>
<td>1.95 Kgs.</td>
</tr>
<tr>
<td>Mast diameter accepted</td>
<td>φ 25 – 62mm</td>
</tr>
<tr>
<td>Connector</td>
<td>M (M-J)</td>
</tr>
<tr>
<td>Type</td>
<td>Loading dipole antenna</td>
</tr>
</tbody>
</table>
FOR YOUR SAFETY
Read the following safety precautions before starting assembling the antenna.

- Assemble the antenna on the ground or wide and flat place such as on balcony before installation.
- Do not assemble or install the antenna on a place where you cannot have enough distance from any electric power lines.
- Do not attempt to install the antenna only by yourself. Installing the antenna alone on the roof may lead you dangerous accident. Always ask your friends for help installing the antenna.
- Do not use iron or aluminum ladder at a reachable distance from any electric power lines.
- Do not install the antenna on a mast which is not grounded properly.
- Do not have your family members or friends touch or come close to the antenna, unless they have realized its potential danger.

TO AVOID FATAL ACCIDENT

- Do not attempt to sustain the antenna, or any part of support structure if it begins to fall down. Let it fall by itself.
- Do not attempt to remove or restore the antenna or any part of support structure if it touches a electric power line by chance. Let it be as it is, do not touch it, and call your local electric power company immediately.

IN CASE OF AN ACCIDENT

- Do not touch a person or an animal who is or seems to be in contact with the antenna or any support structure which is fallen on a live electric power line. Touching one may lead you to be electrocuted.
- Do not attempt to separate a person or an animal who is or seems to be in contact with the antenna or any support structure which is fallen on a live electric power line by yourself. Call or have someone call a police officer, ambulance, doctor immediately.

ANTENNA INSTALLATION PRECAUTIONS

To determine antenna installation location, there are several factors to be taken into account. First thing is antenna propagation direction to specific target stations. As to whether there is any obstacles such as tall buildings on the line of sight. Next is specific installation location. As to whether specific location is adequate in terms of antenna support and surrounding safety.

- Do not attempt to install the antenna by yourself if you do not have any experience in installing base station antenna. Ask your experienced friends or professional for help.
- Do not attempt to install the antenna at a location where does not have enough distance from nearby electric power lines. It is advised to install the antenna at least twice of total antenna height from nearby electric power lines.
- Do not install the antenna on any type of tower pole or telescopic mast which exceeds 30 feet high, if you do not have enough experience in installing the antenna on that kind of location. Ask your experienced friends or professional for help.
- Do not use more than 1/10 section if you install the antenna on iron plumber's pipe. Attach guy wire if multiple pipes are used to install the antenna.