

W719

OPERATION INSTRUCTIONS

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

Safety Precautions

Note beforehand that the company shall not be liable for any damages suffered by the customers or third parties in using that product, or for any failures and faults that occur the use or misuse of this product, unless otherwise provided for under the law.

■ Type and meaning of the marks

| | |
|----------------|---|
| DANGER | This mark indicates an imminently hazardous situation, which, if not avoided, could result in death or serious injury. |
| WARNING | This mark indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury. |
| CAUTION | This mark indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury or only property damage. |

DANGER

- Don't install the antenna on a rainy or windy day since it is dangerous.
- Don't touch the antenna during transmitting since it is dangerous.
- If there is a thunderstorm during operation, stop the operation immediately and remove the cable from the transceiver. If that doesn't make it in time, don't touch the antenna and the cable. It may be severely injured or die due to getting and electronic shock from a lightning strike.

WARNING

- Don't drop the antenna, tools and attachment when installing the antenna in the height. Install the antenna after assembling it on the ground.
- Install the antenna firmly not to fall down due to the strong wind. Even if falling down the antenna, locate the antenna at the safe place where people and building are not inflicted injures.
- Don't 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.

CAUTION

- Make sure to adjust the antenna before using it.
- Install the antenna as far away as possible from any obstacles to obtain its maximum performance.
- Keeping transmitting with high VSWR may cause the transceiver to be damaged. Stop transmitting immediately and check the antenna.
- When transmitting, operate within the specification of the transmission power. It is a big burden on the antenna on FT8 etc. Don't operate over the specification of the transmission power. The antenna may be damaged.

● **Description**

1. The W719 can be operated on 1.9MHz(160m) and 7MHz(40m).
2. 7MHz is 1/2 wave and 1.9MHz is high efficiency.
3. It is easy to assemble.
4. It is easy to adjust each frequency by the adjustment elements.
5. The element is applied in AWG 12 IV wire. It is excellent performance of the low expansion and contraction rate, withstand tension and weatherability.

※Operate FT8 at 250W continuous.

● **Parts List**

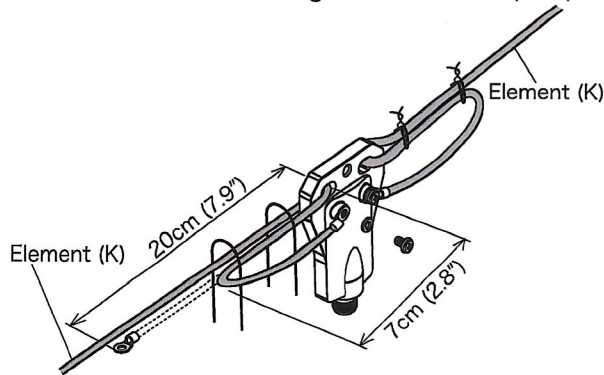
Please confirm if all parts of the below list are contained in the package.

| | |
|---|---|
| Balun (BU-50A) | 1 |
| 1.9MHz Loading Coil | 2 |
| Element (J) 4.6m(181.1") | 2 |
| Element (K) 10m(393.7") | 2 |
| Adjustment element 0.4m(15.7") | 2 |
| Insulator | 2 |
| Cremona Rope 10m(393.7") | 1 |
| Self-melting Plastic Sealing Tape 0.3m(11.8") | 1 |
| Binding wire 0.6m(23.6") | 1 |

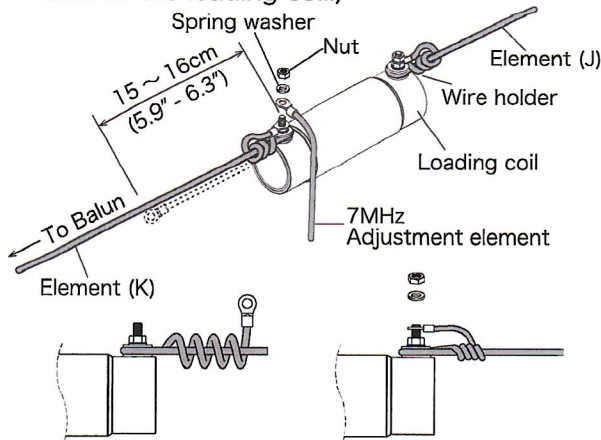
● **Assembly**

The antenna is assembled as shown per the figure.

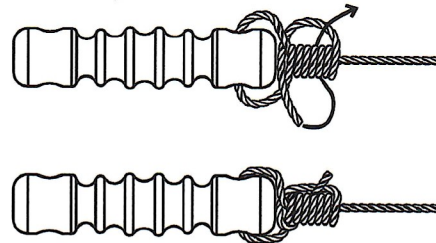
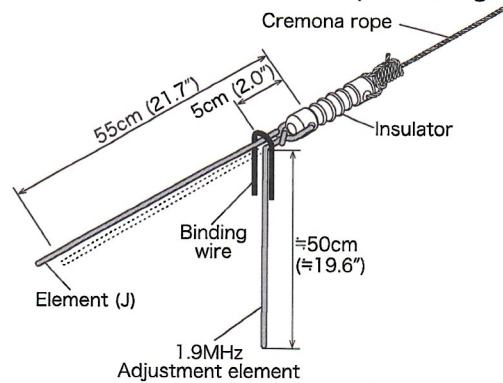
1. Turn the element (K) 20cm(7.9") through the balun and bind two parts by the binding wire. <Note> Cut the binding wire for 10cm(3.9").



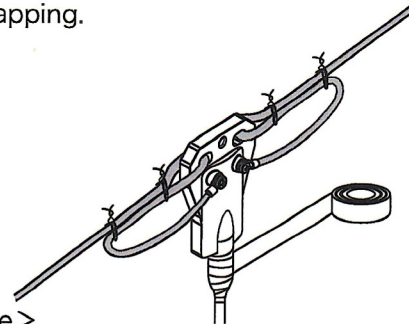
2. When installing the element to the loading coil, turn the element 15-16cm(5.9"-6.3") and hook it. Turn the crimping terminal side of the element (K) four times and fix them with the spring washer and the nut. Do the same at the element (J) side and fix it. (Set the 7MHz adjustment element on the balun side of the loading coil.)



3. Put the element (J) 55cm(21.7") through the insulator and tie it as shown per the figure.



4. Connect the coaxial cable to the balun. For the purpose of waterproof, wrap the connector with self-melting plastic sealing tape, and wrap again with the plastic tape. Pull the self-melting plastic sealing tape approx. two times its former length when wrapping.

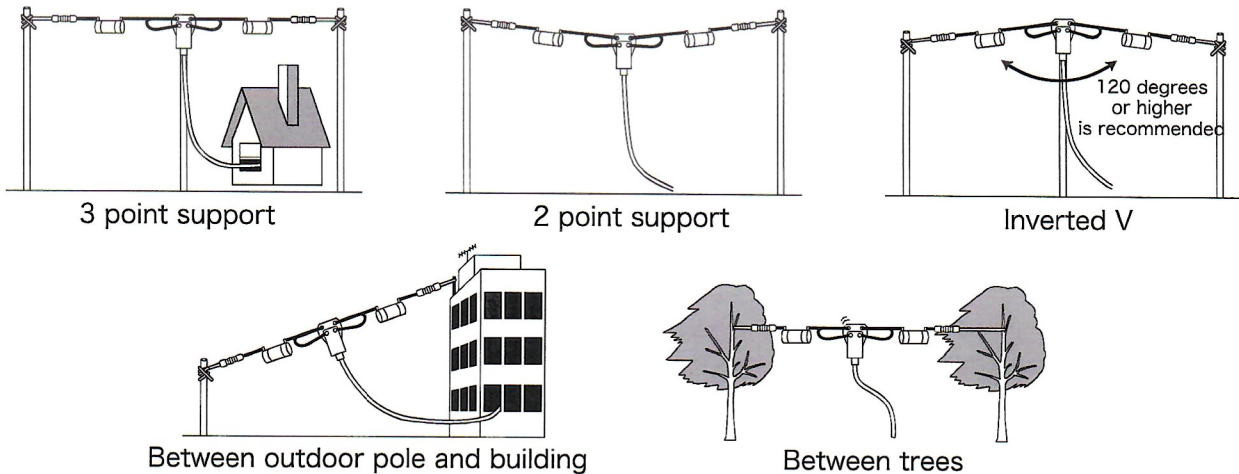


<Note>

- Since each element is being affixed with its own cord, assemble the antenna by referring to the assembled antenna figure.
- Set the adjustment element downward to avoid effecting resonant frequency of the main element.
- The elements that are connected with both ends of the insulators become the adjustment element which is 50cm(19.7") hanging down. (When adjusting more than 1.9MHz, the adjustment element will be more than 50cm(19.7").)
- Tie the insulators with the cremona rope firmly as shown the figure.

● Installation

There are various ways of installation depending on the place where it is installed.

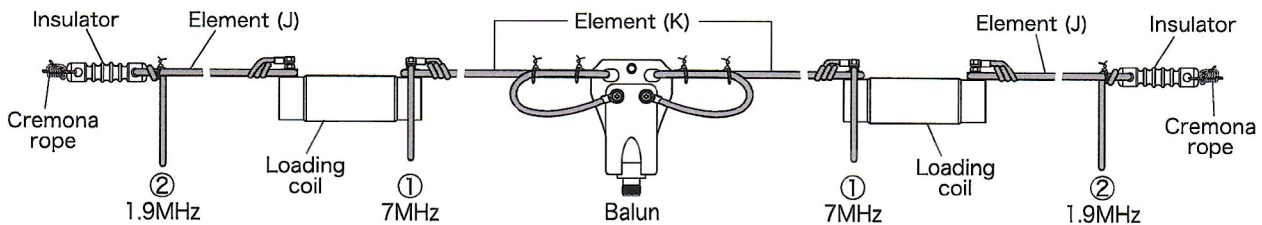


<Note>

1. To touch the antenna during transmitting is a risk of electric shock because the tip of the element is voltage point. Noise may be generated due to the spark at the building etc. Install the tip of the element at more than 2m(78.7") away from the building.
2. To avoid having direct load from the coaxial cable, turn the coaxial cable around the balun once and fix it with the plastic tape. If the coaxial cable and the element are parallel, SWR may be higher or common mode electronic currency may occur and it becomes the reason of the noise. Hang the coaxial cable down against the element vertically. (If common mode occurs, it is recommended to using the CMF2000.)
3. In case of installing the antenna in trees etc., it is recommended to use the strong or elastic rope at the rope side to avoid breaking the elements by strong wind.
4. The antenna adjustment has to be practiced at the place where the antenna is being operated. It is useful if finding the easy way to do the antenna up and down. The radiation impedance (To have 50Ω is fine) will be changed depending on the height because the horizontal dipole is affected by the ground. To install the antenna at the higher may have the nearly perfect adjustment. However, it is depending on the surrounding environments.

● Adjustment

1. Install the antenna without cutting the adjustment element once. Find the resonance point (best SWR) by the SWR meter or the analyzer and take notes.
The resonance point at factory adjustment is around 7.0MHz.
2. Put the antenna down after taking the notes of the measurement and adjust the frequency.
Start adjustment from higher operation frequency(7MHz). Cut the adjustment elements at both side in same length and adjust the desired resonance point (best SWR).
3. Install the antenna again after finishing the adjustment and confirm the resonance point. Adjust it again if there is difference between the desired frequency and actual one.
If ok, find the resonance point (best SWR) on 1.9MHz band and take notes.
The resonance point at factory adjustment is around 1.8MHz.
4. Put the antenna down after taking the notes of the measurement and cut the adjustment element for 1.9MHz band and adjust it. The procedure is same as 2.
5. Install the antennae again after finishing the adjustment and measure the SWR on both 1.9MHz and 7MHz at the last. If no problem, please confirm if the antenna is fixed firmly.

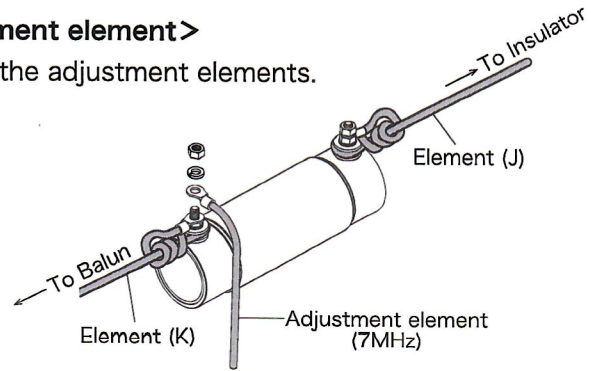
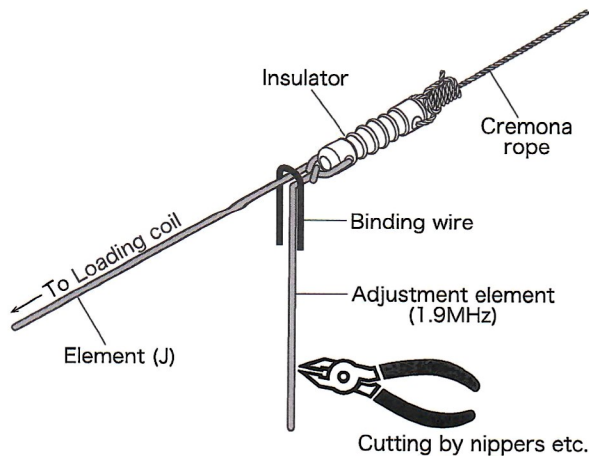


Cut the adjustment elements that are closer to the balun at both side in same length.

Note: If cutting the adjustment element too much, solder the element.

<Resonance frequency change of the adjustment element>

The resonance frequency will be higher if cutting the adjustment elements.



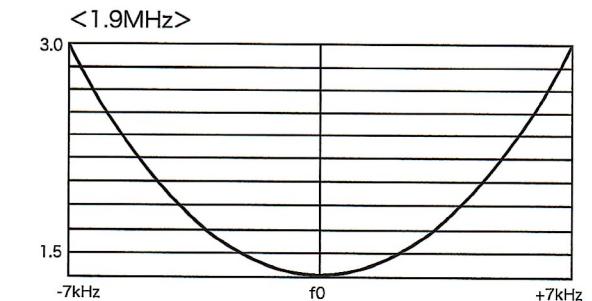
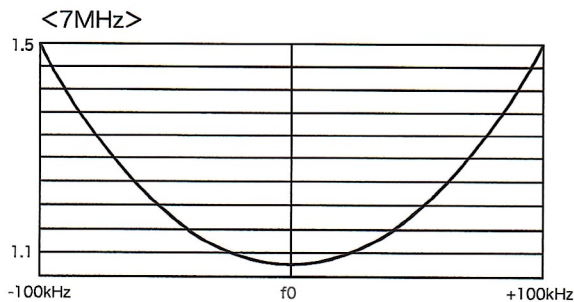
| Frequency | Amount of change |
|-----------|------------------------------|
| 1.9MHz | Approx. 7kHz per 5cm (2.0") |
| 7MHz | Approx. 25kHz per 5cm (2.0") |

Note: The above values may be changed depending on surrounding environment.

<Note>

Since amount of the frequency change by cutting adjustment element may change more or less depending on the place where the antenna is installed, it is recommended to cut the element a bit shorter for adjustment.

● VSWR



Note: To use the antenna tuner (ATU) on 1.9MHz band is recommended.

● Specification

| | |
|-------------------|---|
| Frequency | 160m(1.9MHz)/40m(7MHz) |
| Impedance | 50Ω |
| VSWR | Less than 1.5 (at resonance frequency) |
| Max. Power Rating | 1.2kW (PEP) |
| Type | Dipole |
| Connector | M (UHF Connector) |
| Length | Approx. 30m (1181") |
| Weight | Approx. 2kg (4.41lbs) |

Point when operating new digital mode FT8 etc.

Operating new digital mode FT8 etc. is a big burden on the antenna and other equipments due to continuous transmission. Operate the **max. power rating at less than 1/5 of SSB(PEP)** on FT8 etc.

■ Though these products purchased are manufactured under strict quality control, if damage is caused by transporting, ask your dealer promptly.

■ Design and specifications of these products will be changed for future improvement without advance notice.

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