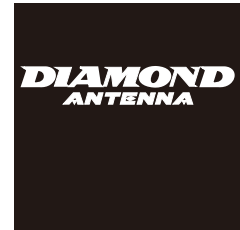


# HFV8040



## Operation Instructions

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

### •Description

- ①HFV8040 is a reduced type V dipole antenna for 80m and 40m.
- ②Compact, light weighted and very easy to assemble.
- ③To adjust the frequencies is possible to change the hats and places.
- ④HFV8040 can be used at 3.5-3.8MHz / 7-7.2MHz.
- ⑤HFV8040 is a V type dipole antenna (90 degree fixing).

### •Instruction for use

**Impedance of HF dipole antenna could be changed depending on the installation place or surrounding situation.**

**It is OK if SWR is less than 1.5. However, it might be difficult to make SWR less than 1.5 according to the situation.**

**The frequency range of reduced scale type antenna is restricted. We recommend using an antenna tuner together with this product. SWR might be higher if there are other antennas or the mast at the cove of V-dipole antenna.**

### -Note-----

<<Installing the antenna>>

- ①Don't install on a rainy or windy day since it is dangerous.
- ②Don'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.
- ③Don't drop the antenna, tools and attachment when installing the antenna in the height. Install the antenna before assembling it on the ground.

<<Antenna location>>

- ①If the HFV8040 is located on the

roof of a house or top of a building, look around the roof to see if there are any obstacles such as an electronic wire or TV antenna. The HFV8040 has to be located as far away as possible from those things to obtain its maximum performance. Installing the antenna too close to the building wall may cause bad effect for electrical characteristics of the antenna.

- ②Don't install the antenna where is easily reachable by people.
- ③Install 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.

<<Before transmitting>>

Transmit after confirming if the antenna works normally by an SWR meter.

<<During transmitting>>

Touching the antenna during transmission may cause to electrify. Pay attention not to touch the antenna especially for children if installing on a balcony railing.

<<Rumbling Thunder>>

The thunder seems to rumble in the vicinity, don't touch the antenna and coaxial.

When you don't use the radio, take off the cable from the radio.

<<If there is something wrong, stop transmitting immediately>>

Keeping transmitting with high VSWR may cause the radio to be damaged.

Stop transmitting immediately and check the following matters. If it doesn't solve the problem, please ask the dealer or Diamond Antenna Corporation.

[Condition: If the antenna doesn't seem to receive well or propagate well]

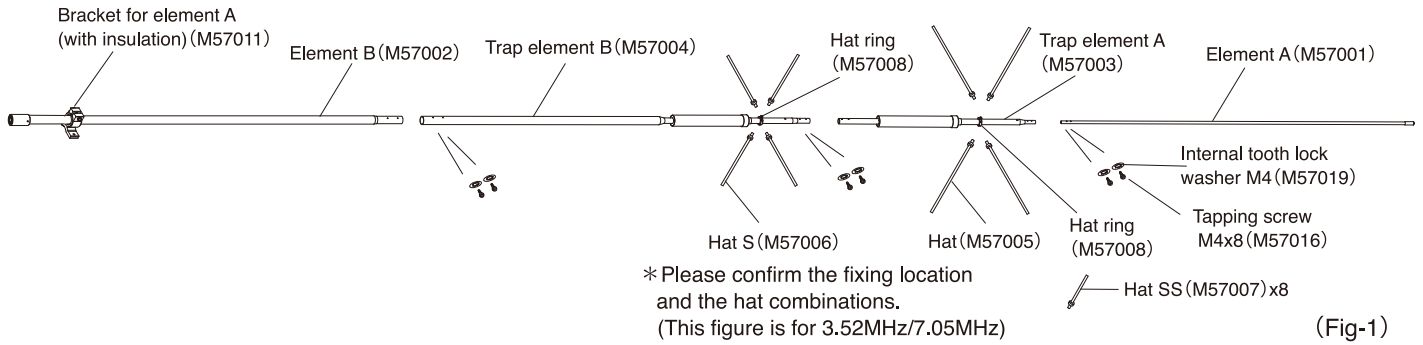
Check 1:Is the antenna too close to the building wall? If the obstacles are too close to antenna, VSWR is higher and the radiation pattern is disturbed. Please install the antenna from the building as far away as possible.

Check 2:Did you assemble the antenna correctly? Please read the instruction again and reconfirm the assembly.

Check 3:Is the coaxial cable something wrong? Please check if soldering the connector is okay and the wire breaks by the volt-ohm meter.

### •Parts Description

Parts#	Description	Qty
M57001	Element A φ10	2
M57002	Element B φ30	2
M57003	Trap element A	2
M57004	Trap element B	2
M57005	Hat 340mm	8
M57006	Hat S 180mm	12
M57007	Hat SS 80mm	8
M57008	Hat ring	4
M57009	Balun BU50 (with M5 set screw, spring washer)	1
M57010	Bracket for balun (with insulation)	1
M57011	Bracket for element A (with insulation)	2
M57012	Bracket for element B	2
M57013	Fixing plate	1
M57014	U volt set M8 (with nut, spring washer)	2
M57015	V volt set M6 (with nut, spring washer)	1
M57016	Tapping screw M4x8	12
M57017	Tapping screw M5x20	2
M57018	Hexagon volt M6x25	8
M57019	Internal tooth lock washer M4	12
M57020	Internal tooth lock washer M5	2
M57021	Nut M6	8
M57022	Spring washer M6	8
M57023	Lead wire	2
M57024	Self-melting tape	1



(Fig-1)

**•Element Assembly Instruction (Fig-1)**

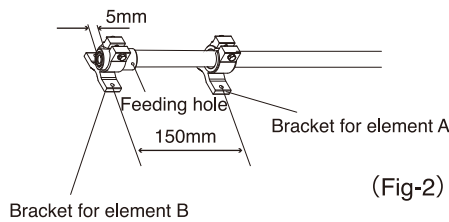
- ①Put element A into trap element A and aligning the holes and fasten by the tapping screw (M4x8) with internal tooth lock washer (M4). (2 places)
- ②Do the same as ①. Connect trap element A and trap element B. Next, connect trap element B and element B (Set the bracket for element A at first) and fasten them.

**•Hat Assembly Instruction (Fig-1)**

- ①Attach the hats on the hat ring of the trap element A and the trap element B depending on the frequencies to operate. Confirm the below chart and attach hats. Fasten hats by hand softly and fasten hexagon volt by spanner firmly.

**•Bracket for element A/B Assembly Instruction**

- ①Put the bracket for element B into the black insulation part of the element B and fasten it in 5-7mm from the end temporarily. Since the elements are symmetrical, fix the feeding hole symmetrically. (Fig-2)
- ②Fasten the bracket for element A to be set at the element B parallel in 150mm between brackets temporary. (150mm space is between the holes of the bracket A and B)



(Fig-2)

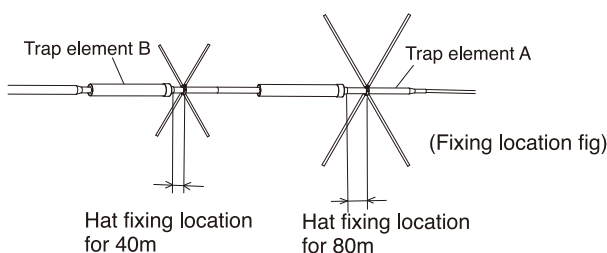
**•Install at the mast (Fig-3)**

- ①Fix the fixing plate on the mast by two U-volts (M8).
  - ②Install the right-and-left element parts to be set on the fixing plate by the hexagon volt (M6), spring washer (M6) and nut (M6). (Fig-3)
  - ③After installing right-and-left element parts, confirm if the drain hole of the element is downward. If the drain hole is not downward, the antenna might be damaged. Pay attention carefully.
- <Note>  
Antenna cannot be installed at inverted V bottom because of waterproof construction.
- ④ After assembling the antenna roughly, fasten all set screw firmly.

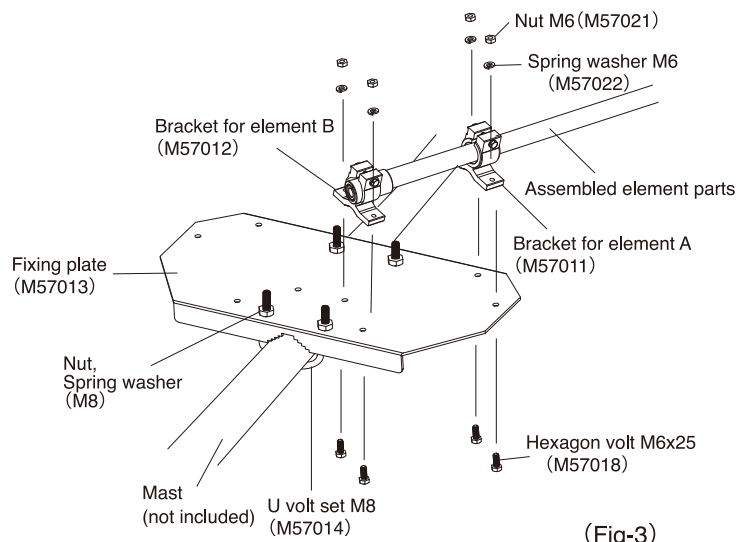
\*HFV8040 is a directional antenna. Please pay attention to installation direction. The directional characteristics go to the right angle of the element. For example, the element looks toward east and west, the directional characteristics go to north and south.

**•Hat location and hat combination chart**

Resonate frequency	Hat combinations	Fixing Location
3.52MHz	Hat x 4	10cm
3.54MHz	Hat x 4	15cm
3.56MHz	Hat x 2, Hat S x 2	0cm
3.60MHz	Hat x 2, Hat S x 2	10cm
3.685MHz	Hat x 2	20cm
3.710MHz	Hat S x 2, Hat SS x 2	0cm
3.758MHz	Hat S x 2	2.5cm
3.800MHz	Hat SS x 4	5cm
7.00MHz	Hat S x 4	0cm
7.05MHz	Hat S x 4	5cm
7.10MHz	Hat S x 2, Hat SS x 2	0cm
7.15MHz	Hat S x 2, Hat SS x 2	5cm



\* Fixing location is from upper black rubber cover to the center of hat ring's screw hole.



(Fig-3)

\*Assemble symmetrically.

### •Install the balun (Fig-4)

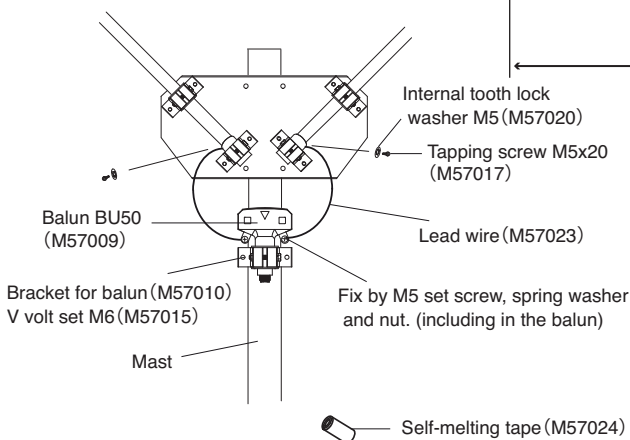
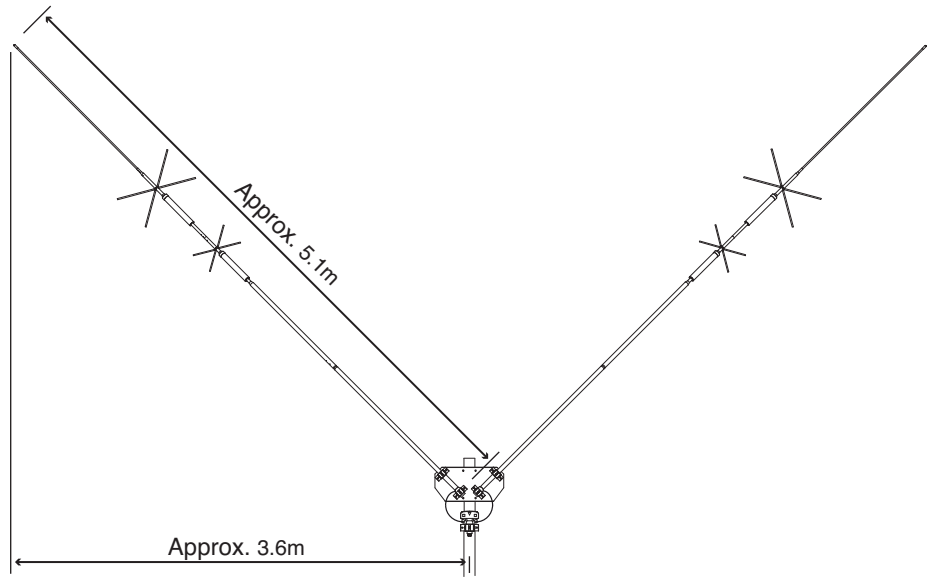
- ① Attach the lead wire on the terminal of the BU50.
- ② Install the opposite end of the lead wire on feeding hole of the element B by the tapping screw (M5x20) and the internal tooth lock washer M5.
- ③ Fix BU50 on the mast by V-volt.

<Note>

If fixing BU50 tightly, the insulation might be damaged.

### •Outline view

\*Align water drain hole downward when attach

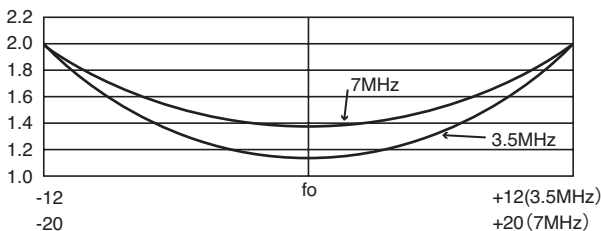


(Fig-4)

### •Install the coaxial cable

- ① Connect the coaxial cable (with MP connector) on the connector part of BU50.
- ② Waterproof connector parts by the self-melting tape or the vinyl tape.

### •VSWR



\*SWR is depending on the installation places or surrounding situation. We recommend using an antenna tuner together with this product.

### Specifications

Frequency	3.500-3.805Mhz / 7.00-7.20MHz
Impedance	50Ω
VSWR	Less than 1.5 (at the resonate frequency)
Max. power rating	300W SSB,100W (FM/CW)
Rated wind velocity	35m/sec.
Length	Approx. 10.2m
Turing-radius	Approx. 3.6m
Weight	Approx. 7.0kg
Wind surface area	0.35 m <sup>2</sup>
Mast diameter accepted	38-60φ
Connector	MJ
Type	Dual band V-dipole (reduced type)

■ 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.

## DIAMOND ANTENNA CORPORATION

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