



Antenna

VG4

Installation Manual

Version 1.0 Jan 2022



VG4 antenna is a 4-band GP type and is made of aluminum alloy with anti-oxidation surface. It is light and solid, and is easy to install and erect, with good outdoor weather ability. After the normal installation, it can resist about level 12 strong wind (It needs no wind cable for fastening).

I. Antenna Parameters

Use frequency band: 7/14/21/28MHz (40m/20m/15m/10m)

Axial length: about 7.8m; Radial length: About 2.7m

Maximum power handling: 1000W PEP (CW500W,RTTY300W)

Antenna impedance: 50 Ω

VSWR: < 1.5:1

Antenna bandwidth: 40m: 150kHz / 20m: 450kHz / 15m: 800kHz / 10m: 1000kHz

Rated wind speed: 35 m/s

Antenna interface type: SL16-K

Weight: about 7.0kg

Erection height: the distance from the ground is more than 3m

II. List of Components

Component	Specification (mm)	Quantity
Main support	450*46*41	1
Main counterpoise	1200	6
NO:1	1200*33*30	1
NO:2	1200*29.5*26	1
NO:3	1200*26*23	1
NO:4	10m Notch filter	1
NO:5	245*26*23	1
NO:6	15m Notch filter	1
NO:7	325*26*23	1
NO:8	20m Notch filter	1
NO:9	1200*12.8*10.5	1



Component	Specification (mm)	Quantity
NO:10	1200*10*8	1
20m capacitor cap	500	2
40m capacitor cap	1200	4
Matching box		1
Main support set plate		1
U clamp		4
7# sleeve		1
10# wrench		1
13# wrench		1
M4 Allen wrench		1

III. Installation Instructions

3.1 Notes

- The antenna can be installed on a reliable fixed support or on the wall with expansion bolts. The installation clearance above the ground shall be greater than 3m.
- The antenna installation environment shall be as open as possible and away from some important equipment & facilities, power transmission & transformation equipment, medical equipment and other sensitive electronic instruments or equipment, and public radio & television tower or other high-power radio transmission antenna system.
- In case of high erection position, please take measures for lightning protection and grounding.
- After the antenna test is completed, it is recommended to apply waterproof and UV resistant silicone rubber at the antenna feeder joint, to wrap the whole connection part.
- When the surrounding environment is safe, it is not recommended to use wind cable to reinforce the antenna.
- In case of extreme weather condition, it is recommended to put down the antenna and reinforce it in advance.

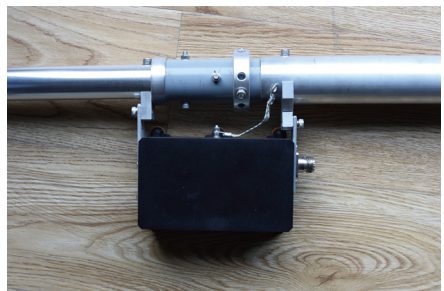


3.2 Installation Step

- ① Insert the NO.2 main rod into the NO.1 main rod, tighten the hoop with a wrench. Then, install other rods from bottom to top in order, and tighten the hoop.
- ② Insert the NO.1 main rod into the main support, and put the two ends of the place for matching box on the same side, and fix it with screws.



- ③ Place the matching box on the main support and fix it with screws.





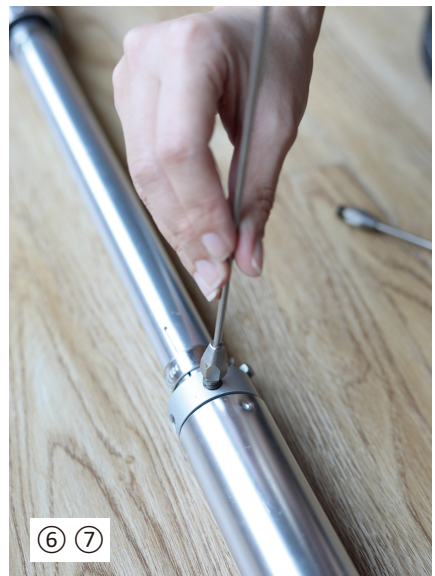
④ Insert the U clamps into the fixing plate, insert the first and third U clamps on the front side, and insert the second and fourth U clamps on the back side.



⑤ Insert the main support into the first and third U clamps, and tighten them with screws. Tighten the other two U clamps when installing the antenna on a reliable fixed support.

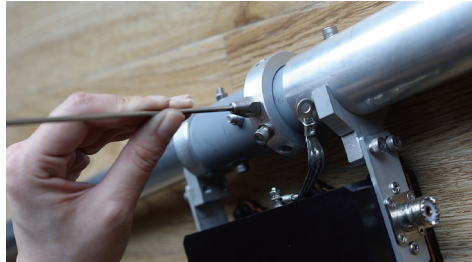
⑥ Twist in a 20m capacitor cap on the NO.8 main rod.

⑦ Twist in a 40m capacitor cap on the NO.9 main rod.





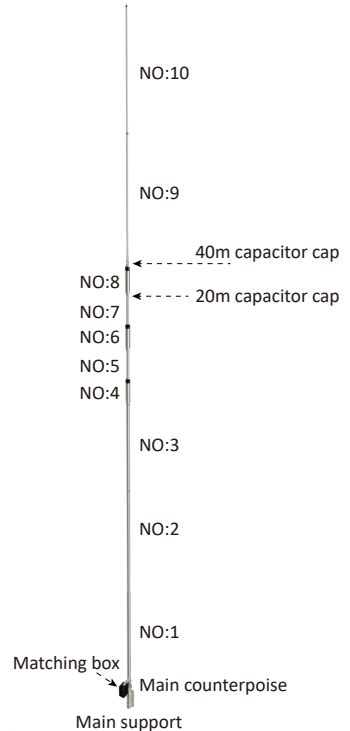
- ⑧ Twist in the main counterpoises.



*Please make sure that each main rod is connected and fastened well; otherwise the overall strength of the antenna shall be affected.

3.3 Commissioning Step

- ① Adjust main rod NO:1-NO:3, or may adjust the center frequency point of 10m band.
- ② Adjust main rod NO:5, or may adjust the center frequency point of 15m.
- ③ Adjust main rod NO:7, or may adjust the center frequency point of 20m.
- ④ Adjust main rod NO:8 - NO:9 length, or may adjust the center frequency point of 40m.
- ⑤ The rough center frequency point of each band is as follows:
40m: 7.05MHZ
15m: 21.3MHZ
20m: 14.2MHZ
10m: 28.5MHZ
- ⑥ Due to the influence of installation environment, if there is any deviation, please adjust it appropriately according to above parameters.



VG4 antenna can be adjusted to frequency band center frequency point that we need. During the adjustment, the adjustment of the high frequency band shall affect the low frequency band, while the adjustment of the low frequency band shall not affect the high frequency band. Therefore, the adjustment sequence is: to adjust from 10m of high frequency band to 40m of low frequency band. Generally, only 40m frequency band needs appropriate adjustment.



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