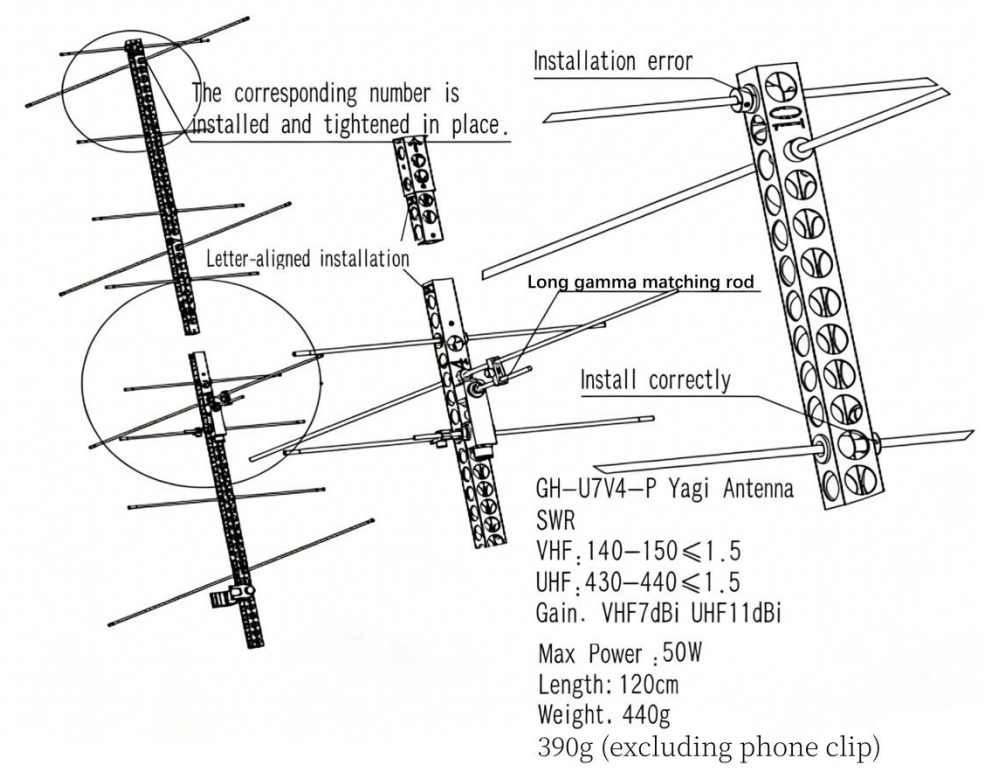
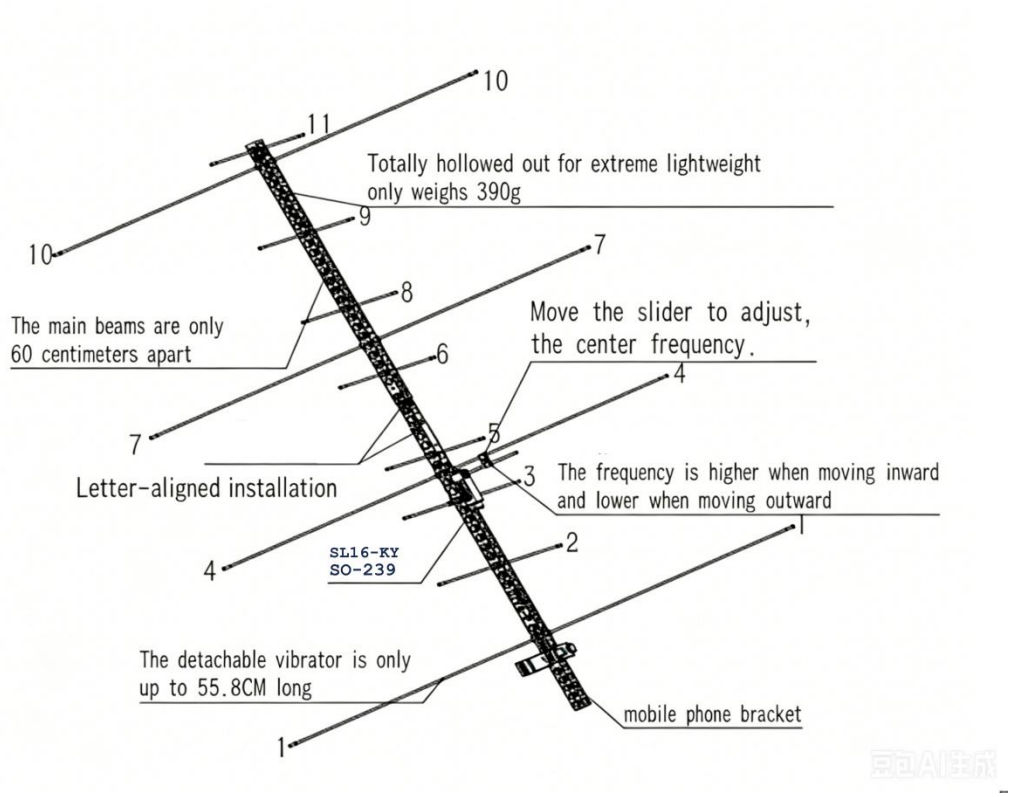
GH-U7V4-P Dual-Band Satellite Yagi Antenna Instruction Manual




## I. Product Overview

This UV satellite antenna is an integrated V/U band Yagi antenna, employing a cross-shaped structure to precisely integrate 4 V-band and 7 U-band elements. It features a quick-release design, all hand-tightened screws, and a calibrated installation scheme. While achieving high-gain transmission, its extremely lightweight design (390 grams, excluding phone holder) and low VSWR (≤1.5) balance portability and signal stability. Through calibrated installation, it can accurately cover the 145MHz (V-band) and 435MHz (U-band) UV amateur frequency bands, suitable for satellite communication, amateur radio communication, outdoor emergency communication, and other scenarios, meeting diverse needs of mobile and fixed communications.




II. Core Parameter Specifications

1. Operating Frequency Range: 144-148MHz (adjustable) 430-440MHz (adjustable).

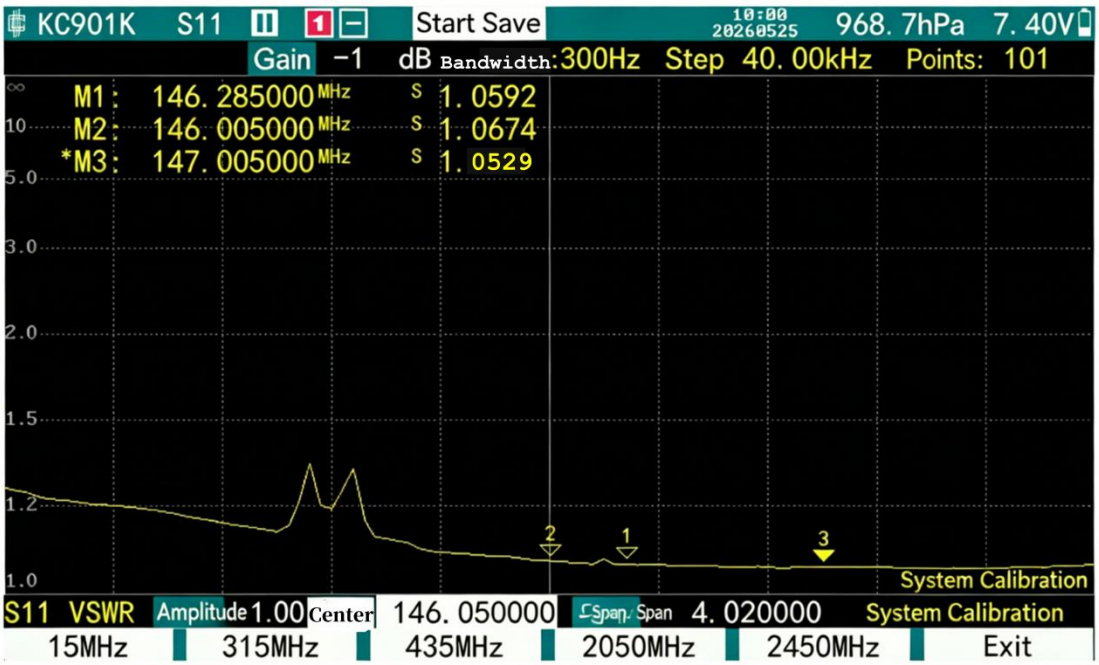
2. Power Tolerance: <50W (FM mode)

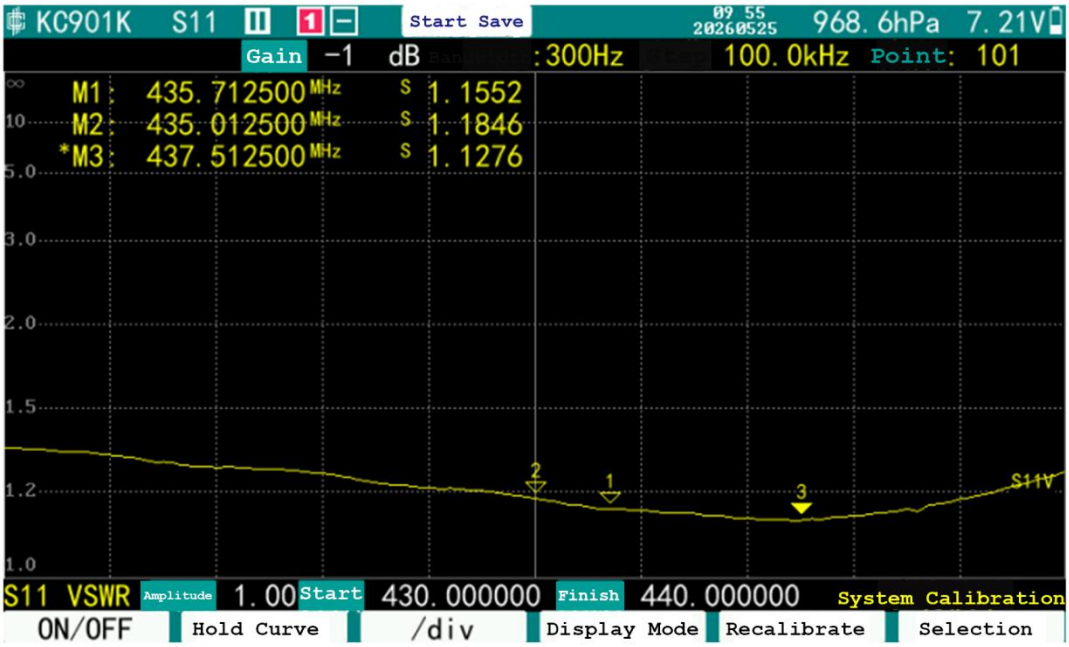
3. Frequency Bands and Unit Configuration:

V-band (145MHz, vertical polarization): 4-unit oscillator;

U-band (435MHz, vertical polarization): 7-unit oscillator, cross-shaped structure

4. Gain and VSWR:




V-band: Antenna gain 7dBi, VSWR ≤1.5;

U-band: Antenna gain 11dBi, VSWR ≤1.5

5. Matching Method: Gamma matching technology is used to optimize impedance matching efficiency and reduce signal reflection.

6. Structure and Dimensions: The main beam adopts a hollow design, balancing structural strength and lightweight, with an overall weight of only 390g; the total antenna length is 120cm, and the longest element is 38cm.

7. Interface Specifications: Equipped with a standard M-type female connector (SO239), it can be directly adapted to mainstream UV-band communication equipment (walkie-talkies, satellite receivers, etc.) without additional adapters.

8. Assembly Design: Fully quick-release structure + all hand-tightened screws, assembly/disassembly can be completed without tools; the main beam has 145MHz (V-band) and 435MHz (U-band) scale markings.

III. Quick Assembly Guide (No Tools Required + Scale Positioning)

1. Component Inventory: Upon opening the package, confirm the following components are included: 1 main beam with openwork design, 4 V-band transducers, 7 U-band transducers, 1 set of M-type female connector assembly, two gamma matching rods (110mm and 50mm each), 4 hand-tightened fixing screws, and 1 mobile phone holder. All components are checked for bending or damage, and the transducer markings on the main beam are clear.

2. Precise Transducer Scale Installation:

- V-band Installation: Align the V-band transducer with the "V-band (145MHz)" scale mounting position on the main beam. After inserting the connector, slowly tighten the screws clockwise to ensure the transducer is perpendicular to the scale without loosening or offset, guaranteeing a stable V-band VSWR.

- U-band Installation: Similarly, install the U-band transducer to the corresponding "U-band (435MHz)" scale position, tighten the screws, and complete the cross-shaped assembly, ensuring precise U-band frequency matching.

3. Interface Assembly: Align the M-type female connector assembly with the main beam signal output mounting position and secure it with the matching thumbscrews, ensuring a tight, secure connection between the interface and the main beam without any movement to avoid affecting signal transmission.

4. Equipment Connection: Take the appropriate M-type male signal cable, connect one end to the antenna M-type female connector, and hand-tighten the connector

nut (with moderate force to prevent stripping). Connect the other end to the UV communication equipment signal interface to complete the overall connection.

IV. Usage and Adjustment Methods

1. Install the vibrator according to the markings, and tighten the gamma matching clips according to the scale positions.

2. Portable Storage Operation: When moving or storing, unscrew all thumbscrews counterclockwise, then remove the vibrator, interface components, and main beam in sequence, and place them into the dedicated storage box according to their respective categories.

3. Usage Tips: The frequency will increase when the clip is close to the center of the main beam, and vice versa; the same applies to the UV.

V. Precautions

1. Environmental Protection: Do not use outdoors during thunderstorms to avoid lightning strikes. After prolonged use in humid, high-temperature, or dusty environments, clean and maintain the product promptly to prevent component aging and performance degradation.

2. Operating Procedures: The vibrator must be installed according to the scale. Misalignment will cause frequency band shift and increased VSWR. Tighten the screws with moderate force; excessive tightening can strip the screws or damage the vibrator, while excessive loosening will result in signal instability.

3. Equipment Compatibility: Ensure that the communication equipment supports the 145MHz/435MHz frequency band and has impedance matching (usually 50Ω). Frequency band or impedance mismatch may lead to signal failure or equipment damage.

V. After-Sales Service:

This product comes with a 3-month warranty from the date of purchase. During the

warranty period, if the product becomes unusable due to its own quality problems, free repair or replacement service can be enjoyed upon presentation of the proof of purchase. For malfunctions caused by human error or improper use, paid repair service will be provided.