Xiegu VG4

Xiegu VG4 4-Band Vertical Antenna Instruction Manual

Model: VG4
Brand: Xiegu

1. Introduction

The Xiegu VG4 is a high-performance 4-band Ground Plane (GP) type vertical antenna designed for HF transceivers. Constructed from durable aluminum alloy with an anti-oxidation surface, it offers a lightweight, solid, and easy-to-install solution for amateur radio enthusiasts. This antenna is engineered for excellent outdoor weather resistance, capable of withstanding significant wind conditions after proper installation.
The VG4 covers the 40, 20, 15, and 10-meter bands, providing automatic band switching through a single coaxial cable feed. Its design incorporates an effective counterpoise, eliminating the need for external radial wires or ground pegs. The antenna's top-loading and parallel resonator design ensure efficient operation even with a reduced physical height.

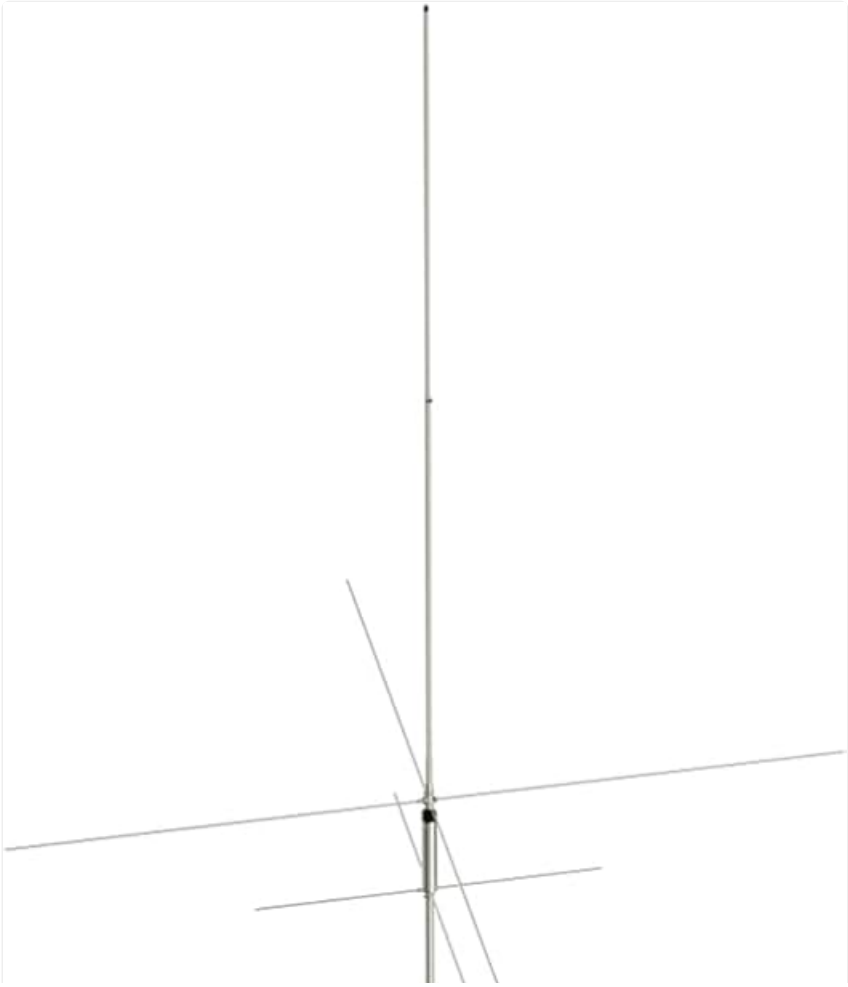


Figure 1.1: Overview of the Xiegu VG4 4-Band Vertical Antenna.

2. Key Features

- **4-Band Operation:** Covers 40, 20, 15, and 10 meters, allowing users to trim the antenna for optimal performance within desired band segments.
- **Automatic Band Switching:** Utilizes a single coaxial cable feed, with each band individually tuned for low VSWR. Band selection is automatic, requiring only a band switch on the radio.
- **Integrated Counterpoise:** Features an effective built-in counterpoise, eliminating the need for external ground pegs or radial wires.
- **Durable and Lightweight Construction:** Made from aluminum alloy with an anti-oxidation coating, ensuring longevity and ease of installation.
- **Compact Design:** Suitable for installations in areas with limited space, such as roofs, patios, small backyards, condos, and motorhomes.

- **Efficient Top Loading:** Employs parallel resonators and capacitive hats for end loading of lower HF band sections, optimizing vertical-element efficiency even with reduced height.
- **High Wind Resistance:** Rated for high wind environments, capable of resisting a Category One Hurricane after normal installation without guying. *Note: Actual wind resistance depends on installation method and firmness.*

3. Setup and Installation

The Xiegu VG4 antenna is designed for straightforward assembly and installation. Ensure all components are present before beginning. Refer to the component overview image below.

Figure 3.1: All components of the Xiegu VG4 antenna laid out.

3.1 Component Identification

Familiarize yourself with the main parts of the antenna:

- Vertical radiating elements
- Horizontal counterpoise elements (radials)
- Base mounting bracket with SO239 connector

- Resonator sections
- Mounting hardware (U-bolts, nuts, washers)

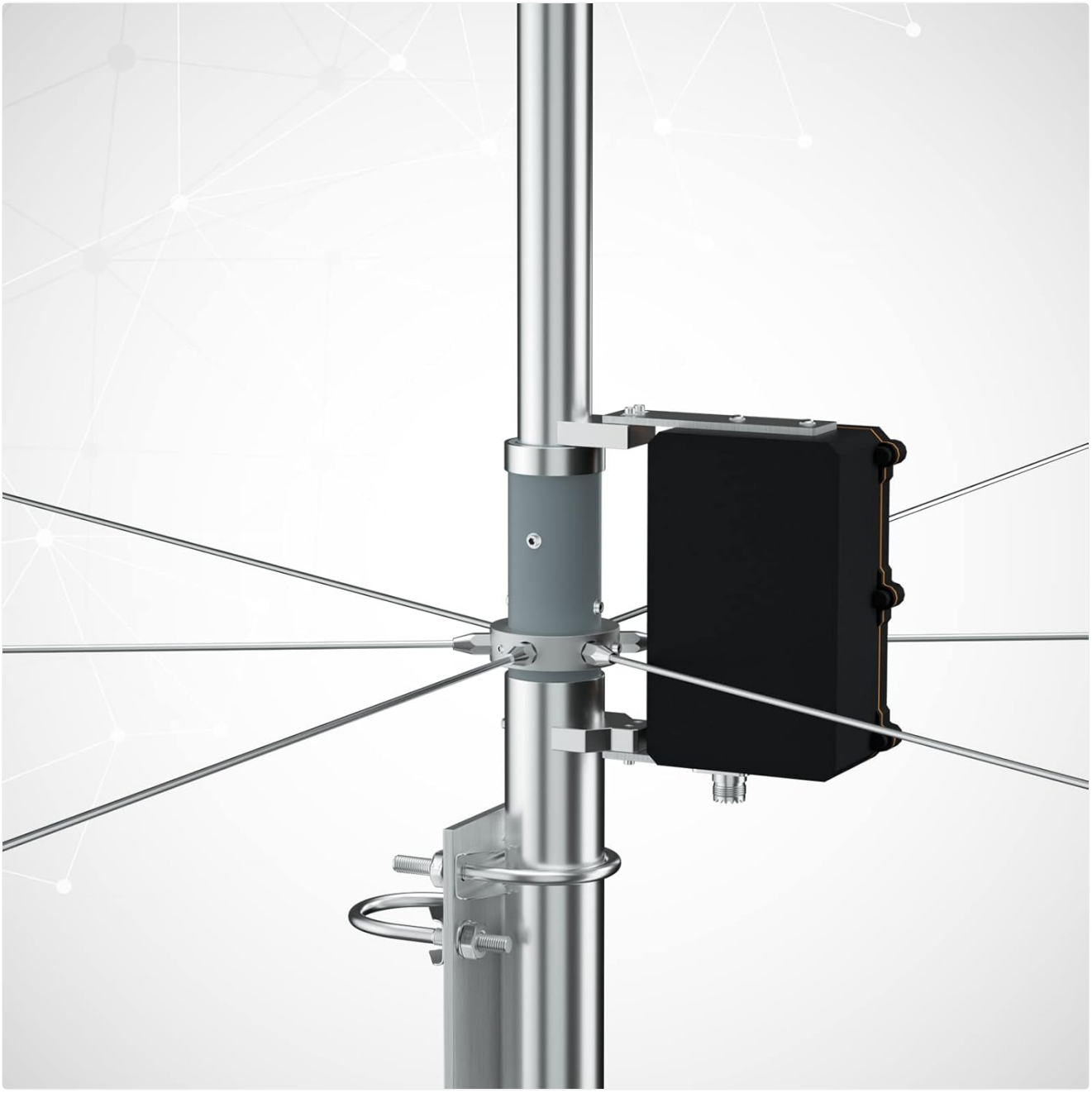


Figure 3.2: Close-up view of the antenna base and SO239 connector.

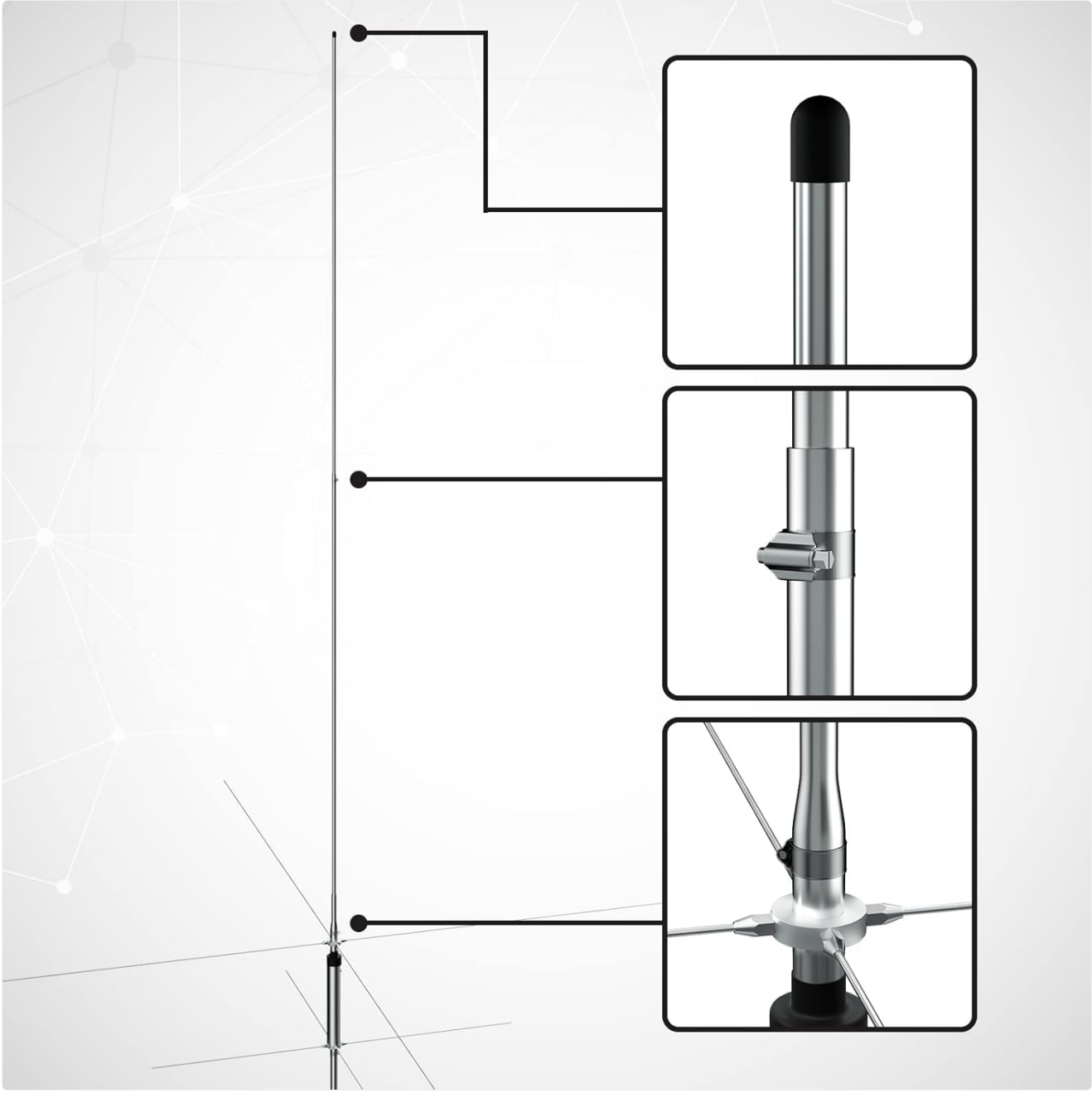


Figure 3.3: Diagram illustrating the different sections and connection points of the antenna.

3.2 Assembly Steps

1. Carefully unpack all components and verify against the parts list (refer to Figure 3.1).
2. Assemble the vertical elements according to the provided diagram, ensuring all sections are securely connected.
3. Attach the horizontal counterpoise elements to the base section. These elements serve as the antenna's effective ground plane.
4. Mount the assembled antenna to a sturdy mast or pole using the supplied U-bolts and mounting hardware. Ensure the mounting location provides clear line-of-sight and is free from obstructions.
5. Connect your 50-ohm coaxial cable to the SO239 connector at the base of the antenna.
6. For optimal performance, the user may need to trim the antenna elements to achieve the desired frequency within each band. This fine-tuning process is crucial for achieving the lowest possible VSWR.

3.3 Site Considerations

Choose an installation site that is:

- Structurally sound to support the antenna's weight and withstand wind loads.
- As high as practically possible to maximize signal propagation.
- Away from power lines, large metal objects, and other potential sources of interference.
- Consider lightning protection measures, such as a lightning arrestor and proper grounding, as the antenna is exposed to outdoor elements.

Figure 3.4: The Xiegu VG4 antenna installed outdoors against a sky background.

4. Operating Instructions

The Xiegu VG4 antenna simplifies multi-band operation with its automatic band switching capability.

4.1 Band Selection

The antenna is designed to automatically switch between the 40, 20, 15, and 10-meter bands. Simply change the operating band on your HF transceiver, and the antenna will automatically adjust. No manual tuning or switching at the antenna itself is required.

4.2 Fine-Tuning for VSWR

While the antenna provides low VSWR across each band, optimal performance (rock-bottom SWR) can be achieved by fine-tuning the antenna to your preferred frequency within the band. This typically involves minor adjustments to the length of the radiating elements as per the assembly instructions. Use an antenna analyzer or the SWR meter on your transceiver to monitor and optimize the VSWR.

5. Maintenance

The Xiegu VG4 antenna is built for durability and requires minimal maintenance due to its robust construction and anti-oxidation surface treatment.

- **Periodic Inspection:** Annually inspect all connections, mounting hardware, and antenna elements for signs of wear, corrosion, or loosening. Tighten any loose bolts or clamps.
- **Cleaning:** If necessary, gently clean the antenna elements with a soft cloth and mild detergent to remove dirt or grime. Avoid abrasive cleaners.
- **Lightning Protection:** Ensure your lightning protection system (e.g., lightning arrestor, proper grounding) is in good working order. Regular checks of ground connections are recommended.
- **Environmental Considerations:** While designed for high wind environments, extreme weather conditions may necessitate additional inspection after the event.

6. Troubleshooting

This section provides guidance for common issues you might encounter with your Xiegu VG4 antenna.

Problem	Possible Cause	Solution
High VSWR on all bands	◦ Loose coaxial cable connection ◦ Damaged coaxial cable ◦ Improper assembly of antenna elements ◦ Antenna too close to large metal objects	◦ Check and tighten all coaxial connections. ◦ Inspect coaxial cable for damage; replace if necessary. ◦ Review assembly instructions and ensure all elements are correctly installed. ◦ Relocate antenna further from obstructions.
High VSWR on a specific band	◦ Antenna not trimmed correctly for that band ◦ Issue with specific resonator section	◦ Perform fine-tuning adjustments for the affected band. ◦ Inspect the resonator section for damage or loose connections.
Poor signal reception/transmission	◦ High VSWR (see above) ◦ Antenna not installed at sufficient height ◦ Interference from local sources	◦ Address VSWR issues. ◦ If possible, raise the antenna height. ◦ Identify and mitigate sources of electrical interference.

If problems persist, consult a qualified amateur radio technician or contact Xiegu customer support.

7. Specifications

The following are the technical specifications for the Xiegu VG4 4-Band Vertical Antenna:

Attribute	Value
Model	VG4
Antenna Type	4-Band Ground Plane (GP) Vertical Antenna
Bands Covered	40m, 20m, 15m, 10m
Connector Type	SO239
Material	Aluminum Alloy with Anti-Oxidation Surface
Color	Silver
Dimensions (Assembled)	Approx. 307 inches (25.6 ft) height
Weight	7.28 kg (approx. 16 lbs)
Wind Resistance	Rated to resist Category One Hurricane (with proper installation)
Counterpoise	Integrated, no external radials needed

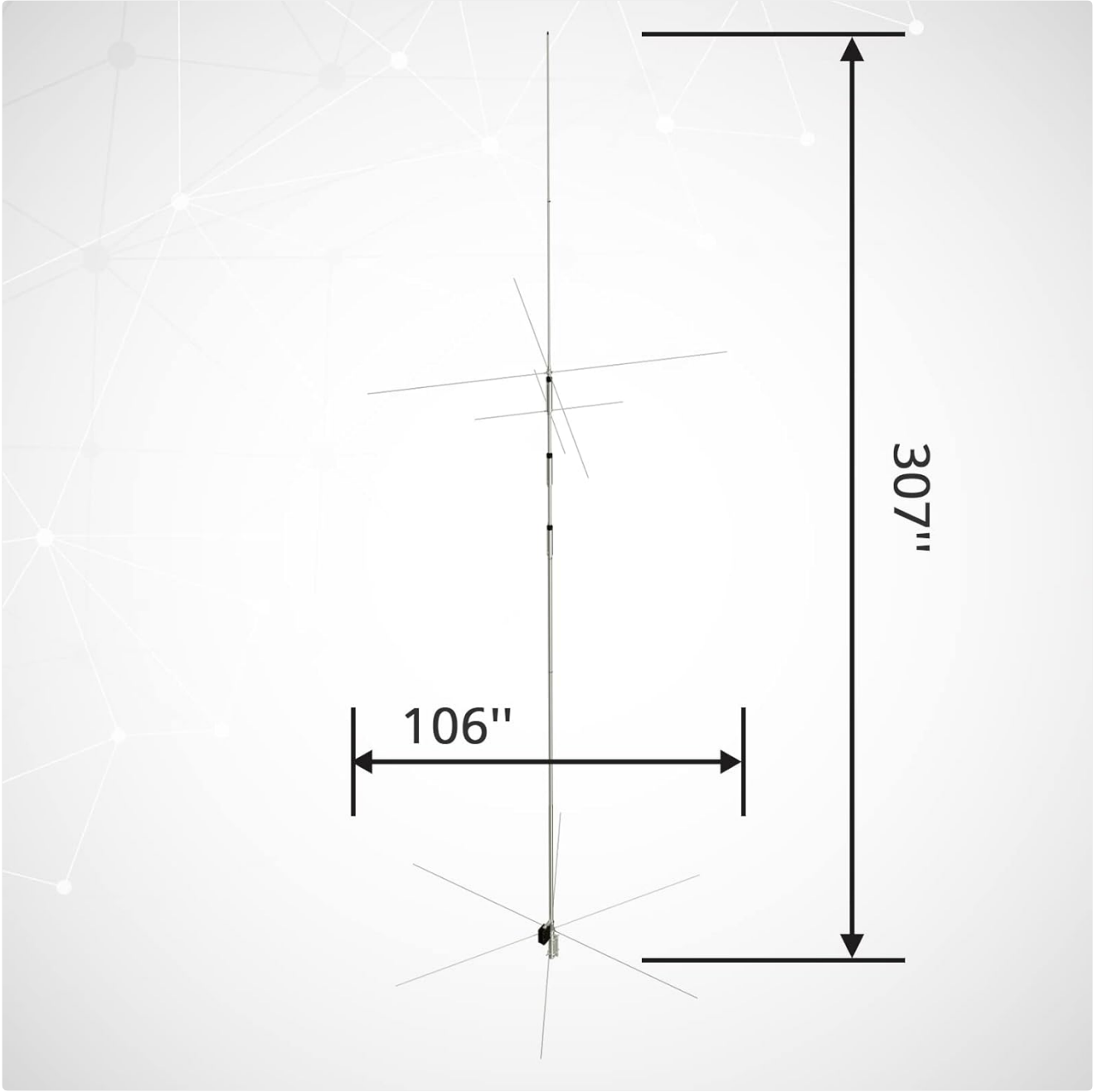


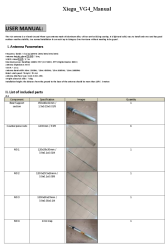
Figure 7.1: Approximate dimensions of the Xiegu VG4 antenna.

8. Warranty and Support

Specific warranty details for the Xiegu VG4 antenna are not provided in this manual. For information regarding warranty coverage, terms, and conditions, please refer to the documentation included with your purchase or contact Xiegu directly through their official website or authorized distributors.

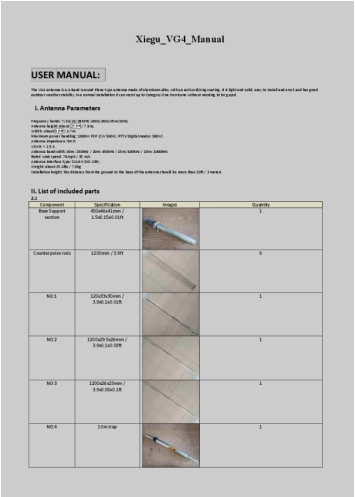
For technical support, product inquiries, or assistance with troubleshooting beyond the scope of this manual, please reach out to Xiegu customer service. Contact information can typically be found on the manufacturer's website or on your purchase receipt.

Related Documents

	Xiegu VG4 Antenna User Manual User manual for the Xiegu VG4 4-band Ground Plane antenna, detailing its specifications, included parts, installation instructions, and commissioning steps.
	Xiegu VG4 Antenna Installation Manual Installation manual for the Xiegu VG4 4-band GP antenna, detailing its parameters, components, and step-by-step installation instructions.
	Xiegu G90 HF Multi-Mode Transceiver: A Comprehensive Review In-depth review of the Xiegu G90 HF multi-mode transceiver, detailing its SDR architecture, features, performance, layout, and value for amateur radio enthusiasts.
	Xiegu X6100 Erweitertes Handbuch: Bedienung, Einstellungen und Updates Umfassendes Handbuch für den Xiegu X6100 SDR Transceiver von Radioddity. Erfahren Sie alles über Bedienung, Einstellungen, Firmware-Updates, Zubehör und technische Daten für Ihr Amateurfunkgerät.

Documents - Xiegu – VG4

Xiegu VG4 Antenna Installation Manual
Installation manual for the Xiegu VG4 4-band GP antenna, detailing its parameters, components, and step-by-step installation instructions.
lang:en score:43 filesize: 2.25 M page_count: 7 document date: 2022-01-11


Xiegu_VG4_Manual

USER MANUAL:

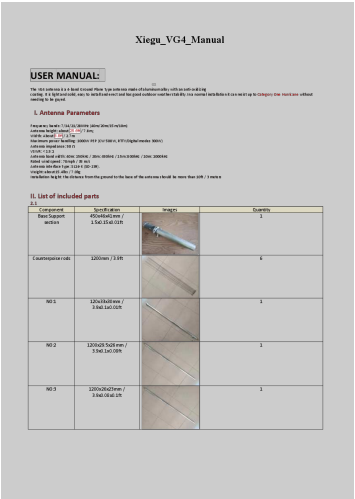
II. List of included parts

Component	Specification	Images	Quantity
Base Support section	450x660x61mm / 1.5x2.15x0.02ft		1
Counterpoise rods	1200mm / 3.9ft		6
NO.1	120x30x30mm / 3.9x0.1x0.1ft		1
NO.2	1200x29.5x26mm / 3.9x0.1x0.09ft		1
NO.3	1200x26.6x13mm / 3.9x0.05x0.1ft		1
NO.4	10m loop		1

[Xiegu VG4 Antenna User Manual]

User manual for the Xiegu VG4 4-band Ground Plane antenna, detailing its specifications, included parts, installation instructions, and commissioning steps.

lang:en score:42 filesize: 3.57 M page_count: 10 document date: 2024-06-20


Xiegu_VG4_Manual

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NO.3	1200x26.6x13mm / 3.9x0.05x0.1ft		1

[pdf] User Manual Installation Guide Specifications

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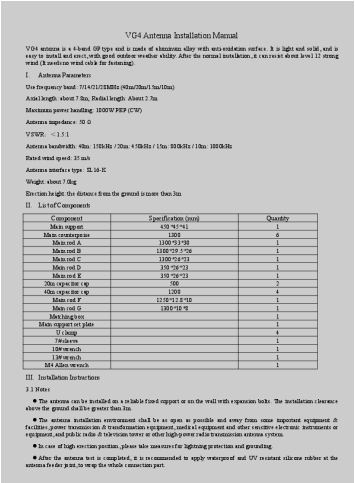
lang:en score:40 filesize: 2.09 M page_count: 11 document date: 2024-09-14


VG4 Antenna Installation Manual

II. List of Components

Component	Specification (mm)	Quantity
Main support	470 *67*41	1
Main counterpoise	1200	6
Main rod A	1100 *13 *58	1
Main rod B	1200 *59 .5 *58	1
Main rod C	1100 *58 *13	1
Main rod D	370 *58 *13	1
Main rod E	370 *58 *13	1
20m signal line cap	500	2
40m signal line cap	1200	4
Main rod F	1258 *13 .5 *58	1
Main rod G	1200 *15 *8	1
Matching box		1
Main support vertical plate		1
U clamp		4
7# sleeve		1
10# wrench		1
13# wrench		1
M4 Allen wrench		1

[VG4 Antenna Installation Manual - Xiegu Technology]

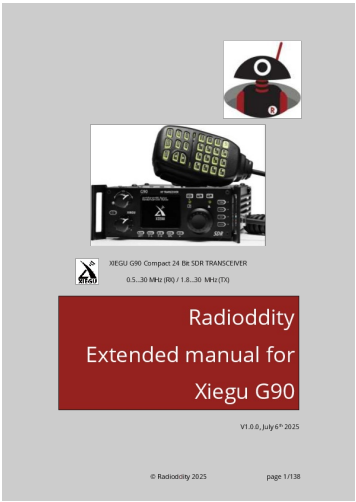
Comprehensive installation manual for the Xiegu VG4 4-band GP antenna. Learn about antenna parameters, component list, step-by-step installation, and commissioning for optimal performance.

lang:en score:39 filesize: 127.93 K page_count: 2 document date: 2021-09-26

[Xiegu X6100 SDR HF Transceiver Extended Manual]

Comprehensive extended manual for the Xiegu X6100 SDR HF Transceiver by Xiegu, published by Radioddity. Covers operation, settings, firmware updates, accessories, digital modes, and technical specifications.

lang:en score:30 filesize: 5.73 M page_count: 132 document date: 2024-01-19



[Xiegu G90 Extended Manual: Comprehensive Guide]

An in-depth manual for the Xiegu G90 SDR transceiver, covering setup, operation, advanced features, firmware updates, and troubleshooting. This guide is designed for both new and experienced radio amateurs.

lang:en score:29 filesize: 2.83 M page_count: 138 document date: 2025-07-01

[pdf] User Manual Instructions

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X6100 SDR HF-TRANSCEIVER 1.8 28 MHz and 50 MHz Radioddity Extended manual for Xiegu X6100 V1.1.8, ... mm stereo output, RCA output Headphone output Automatic switch headphone/speaker output Xiegu **VG4** 40m/20m/15m/10m 4-band Vertical Antenna For 4 frequency bands: 7/14/21/28MHz 40m/20m/15m/10m ...

lang:en score:29 filesize: 5.99 M page_count: 143 document date: 2024-09-09

[Xiegu X6100 Erweitertes Handbuch: Bedienung, Einstellungen und Updates]
Umfassendes Handbuch für den Xiegu X6100 SDR Transceiver von Radioddity. Erfahren Sie alles über Bedienung, Einstellungen, Firmware-Updates, Zubehör und technische Daten für Ihr Amateurfunkgerät.
lang:de score:27 filesize: 5.64 M page_count: 145 document date: 2024-09-09

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lang:de score:19 filesize: 5.39 M page_count: 132 document date: 2024-02-12