

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.

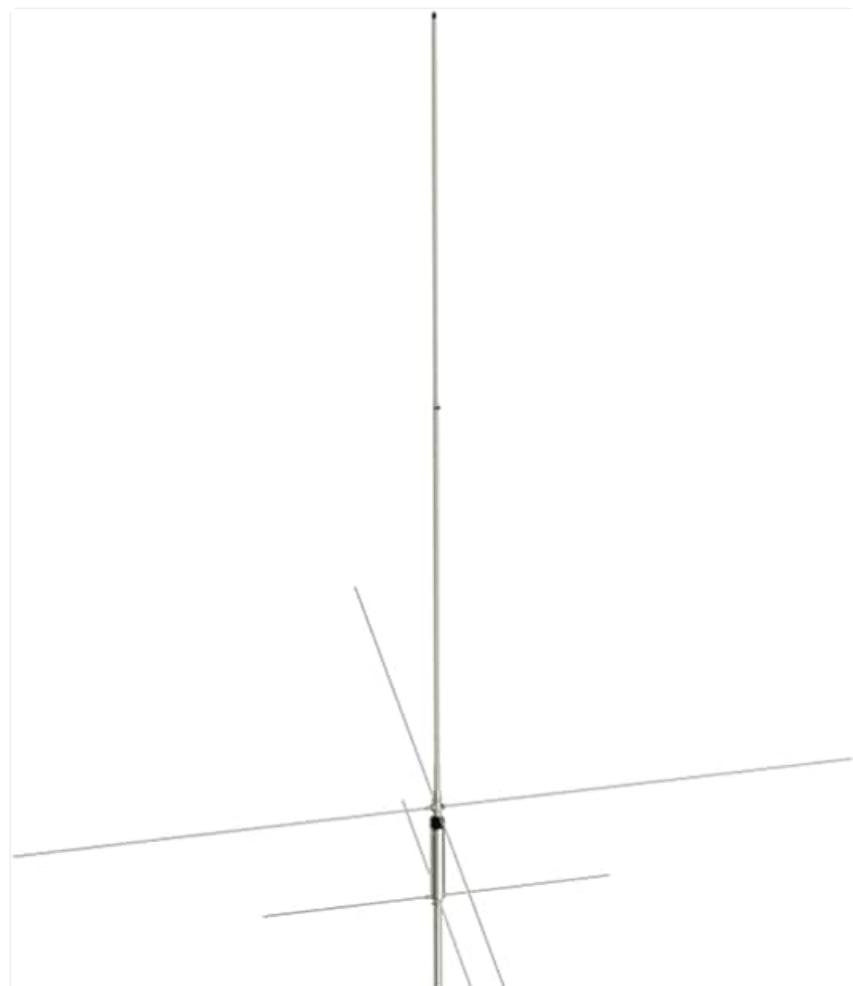




Figure 1.1: Overview of the Xiegu VG4 4-Band Vertical Antenna.

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)

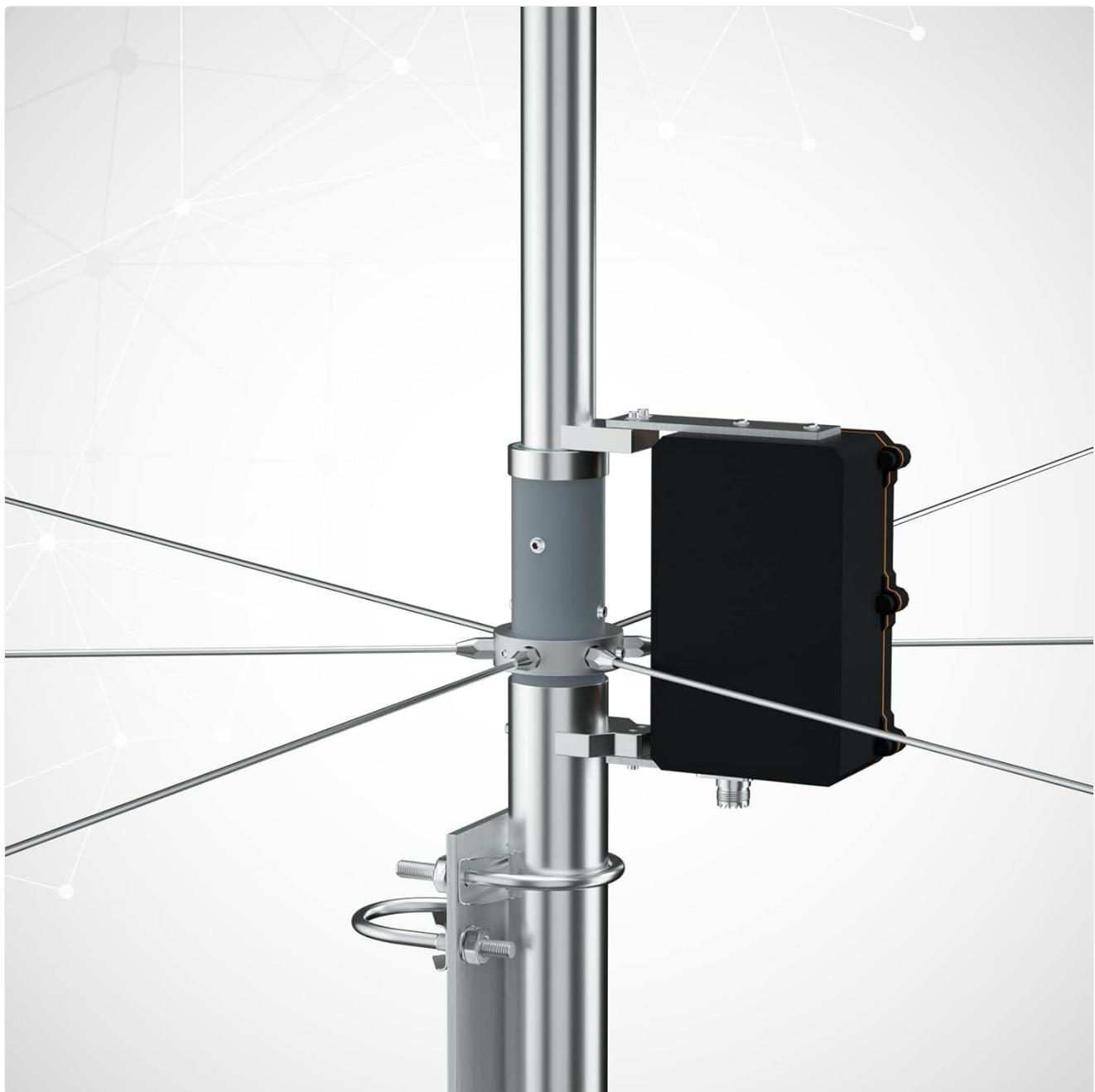


Figure 3.2: Close-up view of the antenna base and SO239 connector.

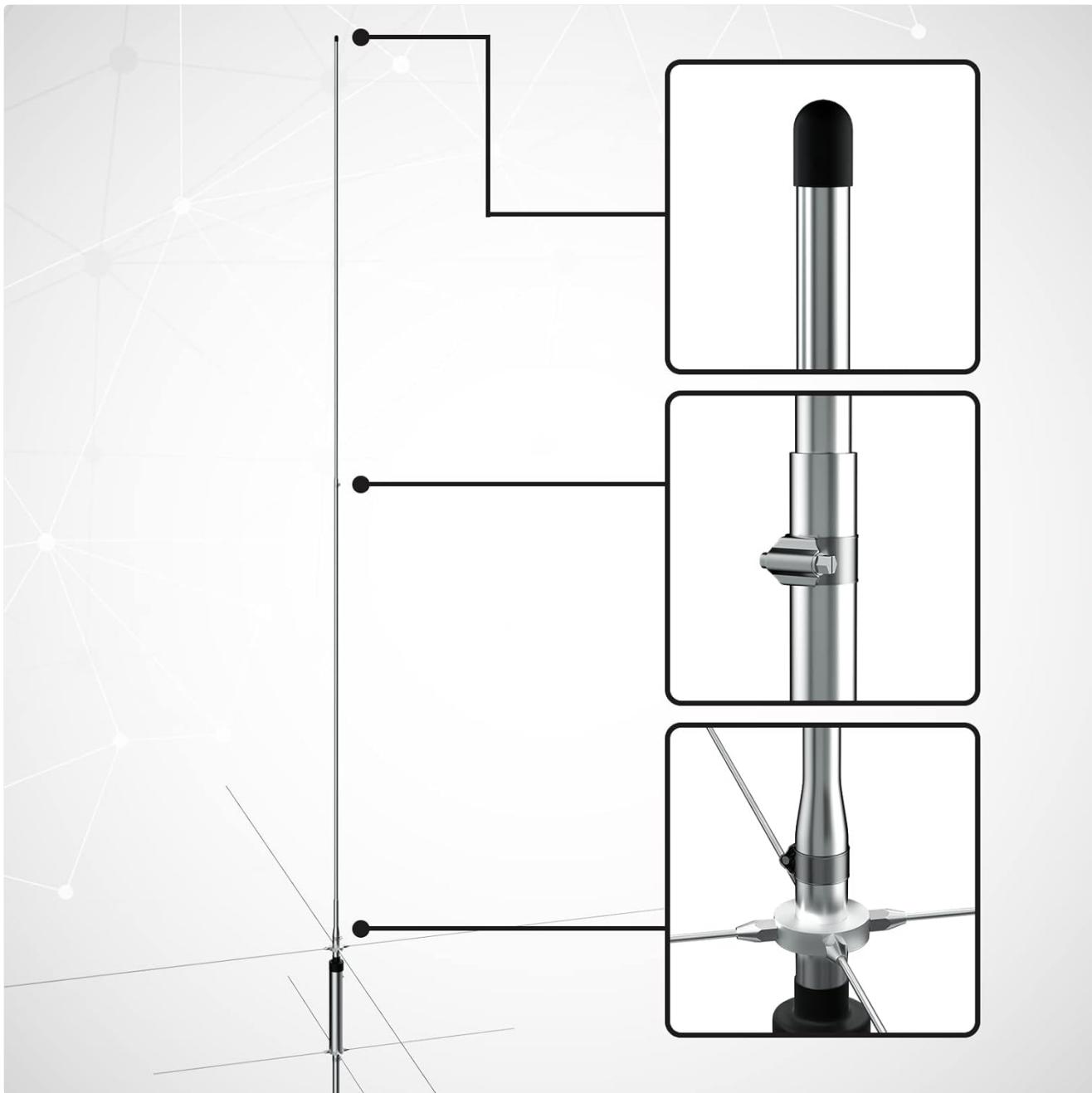


Figure 3.3: Diagram illustrating the different sections and connection points of the antenna.

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 | <ul style="list-style-type: none">Loose coaxial cable connectionDamaged coaxial cableImproper assembly of antenna elementsAntenna too close to large metal objects | <ul style="list-style-type: none">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 | <ul style="list-style-type: none">Antenna not trimmed correctly for that bandIssue with specific resonator section | <ul style="list-style-type: none">Perform fine-tuning adjustments for the affected band.Inspect the resonator section for damage or loose connections. |
| Poor signal reception/transmission | <ul style="list-style-type: none">High VSWR (see above)Antenna not installed at sufficient heightInterference from local sources | <ul style="list-style-type: none">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 |

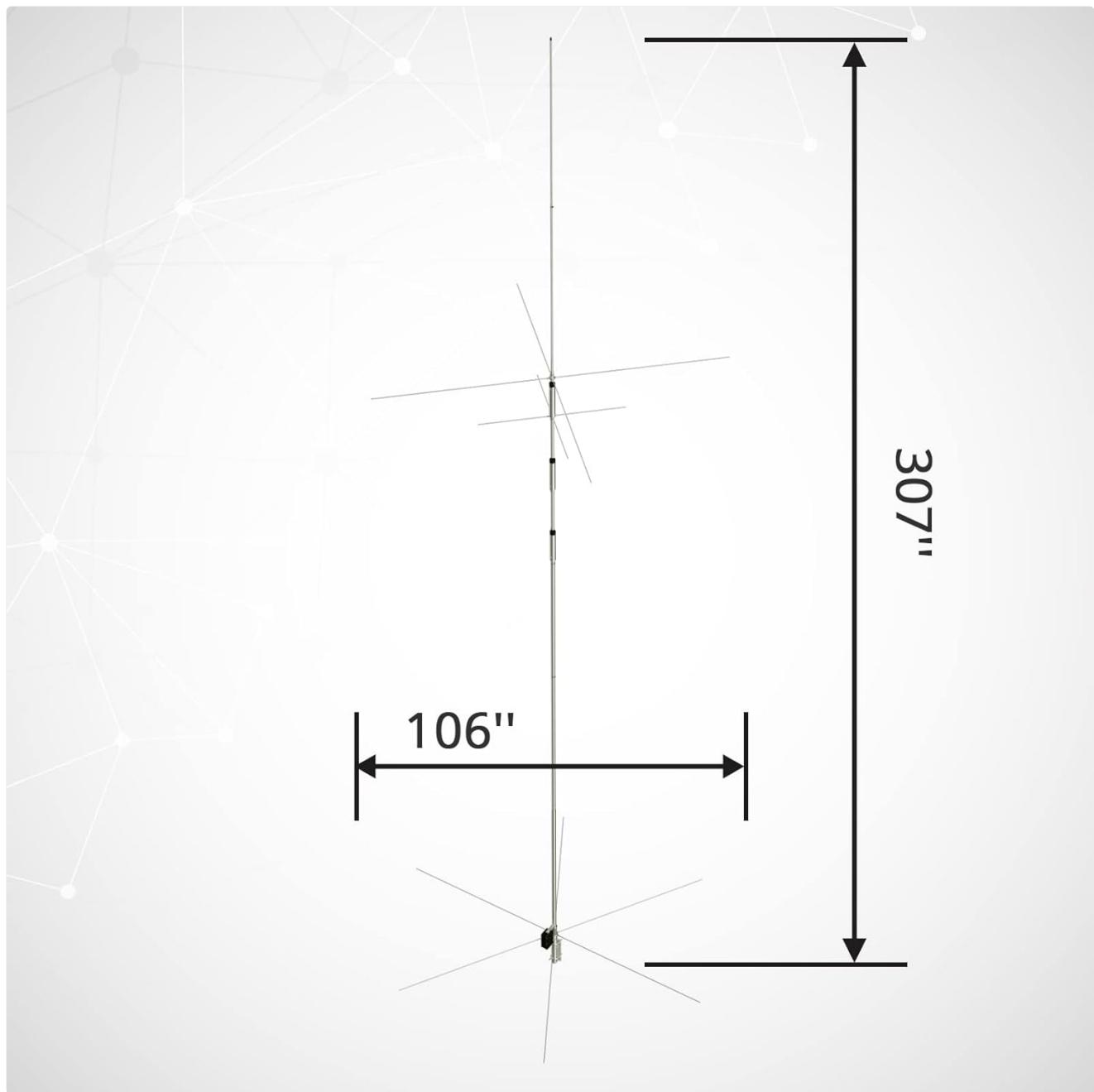


Figure 7.1: Approximate dimensions of the Xiegu VG4 antenna.

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

| | |
|--|---|
|  | <p>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.</p> |
|  <p>Antenna VG4 Installation Manual Version 1.0 Jan 2022</p> | <p>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.</p> |
|  <p>Xiegu G90 HF multi-mode transceiver</p> | <p>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.</p> |
|  <p>Erweitertes Handbuch zum Xiegu X6100 Version 1.0 September 2022</p> | <p>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.</p> |

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

USER MANUAL:

The VG4 antenna is a band 4GP type and is made of aluminum alloy with anti-oxidizing coating. It is light and solid, easy to install and has good outdoor weather stability. In a normal installation it can resist up to Category one Hurricane ...

I. Antenna Parameters

Frequency band: 7040-12100MHz / 144MHz / 240MHz / 430MHz

Antenna height: 7.0m, reflector height: 1.8m, total height: 8.8m

Antenna weight: 7.0kg, reflector weight: 0.5kg, total weight: 7.5kg

Wind load (wind speed 20m/s): 1000N

Wind load (wind speed 30m/s): 1500N

Wind load (wind speed 40m/s): 2000N

Wind load (wind speed 50m/s): 2500N

Wind load (wind speed 60m/s): 3000N

Wind load (wind speed 70m/s): 3500N

Wind load (wind speed 80m/s): 4000N

Wind load (wind speed 90m/s): 4500N

Wind load (wind speed 100m/s): 5000N

Wind load (wind speed 110m/s): 5500N

Wind load (wind speed 120m/s): 6000N

Wind load (wind speed 130m/s): 6500N

Wind load (wind speed 140m/s): 7000N

Wind load (wind speed 150m/s): 7500N

Wind load (wind speed 160m/s): 8000N

Wind load (wind speed 170m/s): 8500N

Wind load (wind speed 180m/s): 9000N

Wind load (wind speed 190m/s): 9500N

Wind load (wind speed 200m/s): 10000N

Wind load (wind speed 210m/s): 10500N

Wind load (wind speed 220m/s): 11000N

Wind load (wind speed 230m/s): 11500N

Wind load (wind speed 240m/s): 12000N

Wind load (wind speed 250m/s): 12500N

Wind load (wind speed 260m/s): 13000N

Wind load (wind speed 270m/s): 13500N

Wind load (wind speed 280m/s): 14000N

Wind load (wind speed 290m/s): 14500N

Wind load (wind speed 300m/s): 15000N

Wind load (wind speed 310m/s): 15500N

Wind load (wind speed 320m/s): 16000N

Wind load (wind speed 330m/s): 16500N

Wind load (wind speed 340m/s): 17000N

Wind load (wind speed 350m/s): 17500N

Wind load (wind speed 360m/s): 18000N

Wind load (wind speed 370m/s): 18500N

Wind load (wind speed 380m/s): 19000N

Wind load (wind speed 390m/s): 19500N

Wind load (wind speed 400m/s): 20000N

Wind load (wind speed 410m/s): 20500N

Wind load (wind speed 420m/s): 21000N

Wind load (wind speed 430m/s): 21500N

Wind load (wind speed 440m/s): 22000N

Wind load (wind speed 450m/s): 22500N

Wind load (wind speed 460m/s): 23000N

Wind load (wind speed 470m/s): 23500N

Wind load (wind speed 480m/s): 24000N

Wind load (wind speed 490m/s): 24500N

Wind load (wind speed 500m/s): 25000N

Wind load (wind speed 510m/s): 25500N

Wind load (wind speed 520m/s): 26000N

Wind load (wind speed 530m/s): 26500N

Wind load (wind speed 540m/s): 27000N

Wind load (wind speed 550m/s): 27500N

Wind load (wind speed 560m/s): 28000N

Wind load (wind speed 570m/s): 28500N

Wind load (wind speed 580m/s): 29000N

Wind load (wind speed 590m/s): 29500N

Wind load (wind speed 600m/s): 30000N

Wind load (wind speed 610m/s): 30500N

Wind load (wind speed 620m/s): 31000N

Wind load (wind speed 630m/s): 31500N

Wind load (wind speed 640m/s): 32000N

Wind load (wind speed 650m/s): 32500N

Wind load (wind speed 660m/s): 33000N

Wind load (wind speed 670m/s): 33500N

Wind load (wind speed 680m/s): 34000N

Wind load (wind speed 690m/s): 34500N

Wind load (wind speed 700m/s): 35000N

Wind load (wind speed 710m/s): 35500N

Wind load (wind speed 720m/s): 36000N

Wind load (wind speed 730m/s): 36500N

Wind load (wind speed 740m/s): 37000N

Wind load (wind speed 750m/s): 37500N

Wind load (wind speed 760m/s): 38000N

Wind load (wind speed 770m/s): 38500N

Wind load (wind speed 780m/s): 39000N

Wind load (wind speed 790m/s): 39500N

Wind load (wind speed 800m/s): 40000N

Wind load (wind speed 810m/s): 40500N

Wind load (wind speed 820m/s): 41000N

Wind load (wind speed 830m/s): 41500N

Wind load (wind speed 840m/s): 42000N

Wind load (wind speed 850m/s): 42500N

Wind load (wind speed 860m/s): 43000N

Wind load (wind speed 870m/s): 43500N

Wind load (wind speed 880m/s): 44000N

Wind load (wind speed 890m/s): 44500N

Wind load (wind speed 900m/s): 45000N

Wind load (wind speed 910m/s): 45500N

Wind load (wind speed 920m/s): 46000N

Wind load (wind speed 930m/s): 46500N

Wind load (wind speed 940m/s): 47000N

Wind load (wind speed 950m/s): 47500N

Wind load (wind speed 960m/s): 48000N

Wind load (wind speed 970m/s): 48500N

Wind load (wind speed 980m/s): 49000N

Wind load (wind speed 990m/s): 49500N

Wind load (wind speed 1000m/s): 50000N

Wind load (wind speed 1010m/s): 50500N

Wind load (wind speed 1020m/s): 51000N

Wind load (wind speed 1030m/s): 51500N

Wind load (wind speed 1040m/s): 52000N

Wind load (wind speed 1050m/s): 52500N

Wind load (wind speed 1060m/s): 53000N

Wind load (wind speed 1070m/s): 53500N

Wind load (wind speed 1080m/s): 54000N

Wind load (wind speed 1090m/s): 54500N

Wind load (wind speed 1100m/s): 55000N

Wind load (wind speed 1110m/s): 55500N

Wind load (wind speed 1120m/s): 56000N

Wind load (wind speed 1130m/s): 56500N

Wind load (wind speed 1140m/s): 57000N

Wind load (wind speed 1150m/s): 57500N

Wind load (wind speed 1160m/s): 58000N

Wind load (wind speed 1170m/s): 58500N

Wind load (wind speed 1180m/s): 59000N

Wind load (wind speed 1190m/s): 59500N

Wind load (wind speed 1200m/s): 60000N

Wind load (wind speed 1210m/s): 60500N

Wind load (wind speed 1220m/s): 61000N

Wind load (wind speed 1230m/s): 61500N

Wind load (wind speed 1240m/s): 62000N

Wind load (wind speed 1250m/s): 62500N

Wind load (wind speed 1260m/s): 63000N

Wind load (wind speed 1270m/s): 63500N

Wind load (wind speed 1280m/s): 64000N

Wind load (wind speed 1290m/s): 64500N

Wind load (wind speed 1300m/s): 65000N

Wind load (wind speed 1310m/s): 65500N

Wind load (wind speed 1320m/s): 66000N

Wind load (wind speed 1330m/s): 66500N

Wind load (wind speed 1340m/s): 67000N

Wind load (wind speed 1350m/s): 67500N

Wind load (wind speed 1360m/s): 68000N

Wind load (wind speed 1370m/s): 68500N

Wind load (wind speed 1380m/s): 69000N

Wind load (wind speed 1390m/s): 69500N

Wind load (wind speed 1400m/s): 70000N

Wind load (wind speed 1410m/s): 70500N

Wind load (wind speed 1420m/s): 71000N

Wind load (wind speed 1430m/s): 71500N

Wind load (wind speed 1440m/s): 72000N

Wind load (wind speed 1450m/s): 72500N

Wind load (wind speed 1460m/s): 73000N

Wind load (wind speed 1470m/s): 73500N

Wind load (wind speed 1480m/s): 74000N

Wind load (wind speed 1490m/s): 74500N

Wind load (wind speed 1500m/s): 75000N

Wind load (wind speed 1510m/s): 75500N

Wind load (wind speed 1520m/s): 76000N

Wind load (wind speed 1530m/s): 76500N

Wind load (wind speed 1540m/s): 77000N

Wind load (wind speed 1550m/s): 77500N

Wind load (wind speed 1560m/s): 78000N

Wind load (wind speed 1570m/s): 78500N

Wind load (wind speed 1580m/s): 79000N

Wind load (wind speed 1590m/s): 79500N

Wind load (wind speed 1600m/s): 80000N

Wind load (wind speed 1610m/s): 80500N

Wind load (wind speed 1620m/s): 81000N

Wind load (wind speed 1630m/s): 81500N

Wind load (wind speed 1640m/s): 82000N

Wind load (wind speed 1650m/s): 82500N

Wind load (wind speed 1660m/s): 83000N

Wind load (wind speed 1670m/s): 83500N

Wind load (wind speed 1680m/s): 84000N

Wind load (wind speed 1690m/s): 84500N

Wind load (wind speed 1700m/s): 85000N

Wind load (wind speed 1710m/s): 85500N

Wind load (wind speed 1720m/s): 86000N

Wind load (wind speed 1730m/s): 86500N

Wind load (wind speed 1740m/s): 87000N

Wind load (wind speed 1750m/s): 87500N

Wind load (wind speed 1760m/s): 88000N

Wind load (wind speed 1770m/s): 88500N

Wind load (wind speed 1780m/s): 89000N

Wind load (wind speed 1790m/s): 89500N

Wind load (wind speed 1800m/s): 90000N

Wind load (wind speed 1810m/s): 90500N

Wind load (wind speed 1820m/s): 91000N

Wind load (wind speed 1830m/s): 91500N

Wind load (wind speed 1840m/s): 92000N

Wind load (wind speed 1850m/s): 92500N

Wind load (wind speed 1860m/s): 93000N

Wind load (wind speed 1870m/s): 93500N

Wind load (wind speed 1880m/s): 94000N

Wind load (wind speed 1890m/s): 94500N

Wind load (wind speed 1900m/s): 95000N

Wind load (wind speed 1910m/s): 95500N

Wind load (wind speed 1920m/s): 96000N

Wind load (wind speed 1930m/s): 96500N

Wind load (wind speed 1940m/s): 97000N

Wind load (wind speed 1950m/s): 97500N

Wind load (wind speed 1960m/s): 98000N

Wind load (wind speed 1970m/s): 98500N

Wind load (wind speed 1980m/s): 99000N

Wind load (wind speed 1990m/s): 99500N

Wind load (wind speed 2000m/s): 100000N

Wind load (wind speed 2010m/s): 100500N

Wind load (wind speed 2020m/s): 101000N

Wind load (wind speed 2030m/s): 101500N

Wind load (wind speed 2040m/s): 102000N

Wind load (wind speed 2050m/s): 102500N

Wind load (wind speed 2060m/s): 103000N

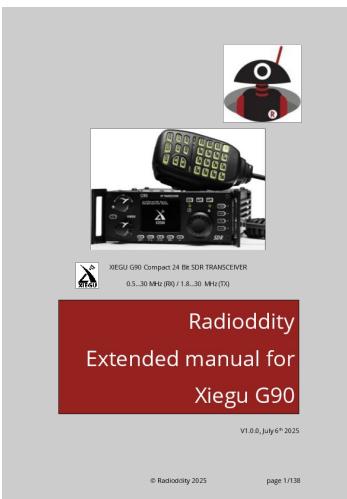
Wind load (wind speed 2070m/s): 103500N



[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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X6100 SDR HF-TRANSCEIVER 1,8 28 MHz sowie 50 MHz Erweitertes Handbuch zum Xiegu X6100 V1.0, 13. F ... Radioddity 2024 Seite 94 von 132 Radioddity Erweitertes Handbuch zum Xiegu X6100 Artikel Xiegu **VG4** 40m/20m/15m/10m 4-band Vertikale Antenne Fr 4 Frequenzbndner: 7/14/21/28MHz 40m/20m/15m/10m A...

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