

AnyTone AT-V55

AnyTone AT-V55 Portable V Antenna Instruction Manual

Model: AT-V55

INTRODUCTION

The AnyTone AT-V55 is a portable, foldable V-shaped antenna designed for amateur radio operators, emergency communicators, and field deployment. It covers a wide frequency range from 7 to 430 MHz, supporting HF, VHF, and UHF bands. Its symmetrical inverted-V design, featuring telescopic and wire elements, ensures broad frequency compatibility. The antenna is engineered for efficient performance with an SWR of ≤ 1.5 across major HF bands (7.0–50.3 MHz) without requiring an external tuner. It also provides clear signal quality for transmission and reception at 145 MHz and 438 MHz. The AT-V55 is built for durability, featuring an IP68 waterproof balun and supporting up to 400 W transmit power, making it suitable for various outdoor and mobile communication needs.

PACKAGE CONTENTS

Verify that all components are present in your package:

- V-type antenna body ×1
- 5.6 m telescopic rods ×2
- 10 m wire oscillator elements ×2
- Carry pouch ×1
- Instruction manual ×1

SAFETY PRECAUTIONS

Adhere to the following safety guidelines to prevent injury or damage to the equipment:

- **Avoid High-Voltage Lines:** Do not set up the antenna near high-voltage power lines or large metal structures. Maintain a safe distance to prevent electrical hazards.
- **Prevent RF Burns and Static Discharge:** Do not touch any metal parts of the antenna during operation to avoid static discharge or radio frequency (RF) burns.
- **Thunderstorm Safety:** Never use or install the antenna during thunderstorms. Always take down and store the antenna safely in a sheltered area during adverse weather conditions.

SETUP AND INSTALLATION

Follow these steps for proper installation of your AT-V55 Portable V Antenna:

1. **Choose a Location:** Select an open area, clear of obstructions, and away from power lines or large metal objects. For optimal performance, the antenna should be installed at a minimum height of 13 feet (4 meters).
2. **Assemble the Antenna Body:** Attach the two 5.6 m telescopic rods to the V-type antenna body. Ensure they are securely fastened.
3. **Connect Wire Elements:** Connect the two 10 m wire oscillator elements to the designated terminals on the antenna body. These wires extend the antenna's effective length for lower frequency bands.
4. **Mount the Antenna:** Secure the antenna body to a suitable mast or tripod (not included with "Antenna Only" variant). Ensure the mounting is stable and can withstand environmental conditions.
5. **Extend Telescopic Rods:** Carefully extend the telescopic rods to the desired length for your operating frequency. Refer to tuning charts (if provided separately) for specific band lengths.
6. **Connect Coaxial Cable:** Attach your 50 Ohm coaxial cable to the SO-239 connector on the antenna balun. Ensure a tight, weather-resistant connection.
7. **Initial Tuning:** For HF bands (7-50 MHz), adjust the length of the telescopic elements to achieve an SWR of ≤ 1.5 . No external tuner is typically required for these bands. For VHF/UHF (144/430 MHz), the antenna is designed to operate effectively when correctly tuned.



Figure 1: The AnyTone AT-V55 Portable V Antenna fully assembled, showing the V-shape configuration with telescopic elements extended. This image illustrates the antenna's compact yet effective design for field deployment.



Figure 2: A close-up view of the AT-V55 antenna's central balun unit, labeled "AT-V55", showing the connection points for the telescopic rods and the coaxial cable. This highlights the robust, waterproof IP68 design of the balun.

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Video 1: This video demonstrates the installation process of a vertical antenna, providing visual guidance on assembling and setting up the components. While it shows a vertical antenna, the principles of connecting elements and mounting are similar to the AT-V55's setup.

OPERATING INSTRUCTIONS

The AT-V55 antenna is designed for versatile operation across multiple frequency bands. Follow these guidelines for effective use:

- **Frequency Selection:** The antenna covers 7-430 MHz. For HF bands (7-50 MHz), adjust the length of the telescopic elements to match your desired operating frequency. The antenna is designed to achieve SWR ≤ 1.5 on these bands without an external tuner.

- **VHF/UHF Operation:** For 144 MHz and 430 MHz bands, the antenna has been lab-tested to provide clear signal quality. Ensure proper tuning and element length for optimal performance on these higher frequencies.
- **Power Handling:** The AT-V55 supports up to 400 W transmit power. Ensure your radio equipment does not exceed this limit to prevent damage to the antenna.
- **SWR Monitoring:** Always monitor your Standing Wave Ratio (SWR) when operating, especially after changing frequencies or antenna configuration. An SWR meter is recommended to ensure efficient power transfer and prevent damage to your radio.
- **Environmental Considerations:** The IP68 waterproof balun ensures reliable operation in typical outdoor conditions. However, avoid prolonged exposure to extreme weather when possible to extend the antenna's lifespan.

MAINTENANCE

Proper maintenance ensures the longevity and performance of your AT-V55 antenna:

- **Regular Inspection:** Periodically inspect all antenna components, including telescopic rods, wire elements, and connections, for any signs of wear, corrosion, or damage.
- **Cleaning:** Clean the antenna elements and balun with a soft, damp cloth as needed. Avoid using harsh chemicals or abrasive materials that could damage the finish or waterproof seals.
- **Connection Integrity:** Ensure all coaxial cable connections are tight and free from moisture. Apply dielectric grease to connectors if operating in humid or wet environments.
- **Storage:** When not in use, disassemble the antenna and store it in the provided carry pouch in a dry, protected environment to prevent damage.
- **Telescopic Rod Care:** Handle telescopic rods carefully during extension and retraction to prevent bending or breaking. If a rod becomes stiff, clean it gently and apply a small amount of silicone lubricant if necessary.

TROUBLESHOOTING

If you encounter issues with your AT-V55 antenna, consider the following:

- **High SWR:**
 - *Check Element Length:* Ensure the telescopic rods and wire elements are set to the correct lengths for your desired frequency.
 - *Inspect Connections:* Verify all connections (coaxial cable, elements to balun) are secure and free from corrosion.
 - *Antenna Placement:* Ensure the antenna is clear of nearby metal objects, buildings, or power lines that could affect its performance.
 - *Cable Integrity:* Inspect your coaxial cable for damage or shorts.
- **Poor Signal Quality:**
 - *Antenna Height:* Confirm the antenna is installed at the recommended minimum height of 13 feet (4 meters).

- *Frequency Match:* Double-check that your radio is set to the correct frequency and that the antenna is tuned accordingly.
- *Environmental Factors:* Heavy rain, dense foliage, or urban interference can affect signal quality.
- **Bent or Broken Telescopic Whips:** The telescopic elements are robust but can be damaged if handled roughly or subjected to excessive force. Consider having spare telescopic whips, especially for frequent field use.

SPECIFICATIONS

Feature	Specification
Model Number	AT-V55
Frequency Range	7-430 MHz (HF/VHF/UHF)
Power Handling	400 W
Impedance	50 Ohms
SWR (HF Bands)	≤1.5 (7.0-50.3 MHz)
Waterproof Rating	IP68 (Balun)
Minimum Installation Height	13 feet (4 meters)
Telescopic Rod Length	5.6 meters (18.4 feet) each
Wire Element Length	10 meters each
Product Dimensions (Packed)	22"L x 5"W x 2"H
Item Weight	3.2 Pounds

WARRANTY INFORMATION

The AnyTone AT-V55 Portable V Antenna comes with a **6-month warranty** from the date of purchase. This warranty covers manufacturing defects and material faults under normal use. It does not cover damage resulting from misuse, accidents, unauthorized modifications, or improper installation. Please retain your proof of purchase for warranty claims.

CUSTOMER SUPPORT

For technical assistance, troubleshooting, or warranty inquiries regarding your AnyTone AT-V55 Portable V

Antenna, please contact your retailer or the official AnyTone customer support channels. Refer to the contact information provided with your purchase documentation or visit the official AnyTone website for further details.