Comet SBB-15

Comet SBB-15 6M/2M/70cm Mobile Antenna Instruction Manual

Product Overview

The Comet SBB-15 is a triple-band mobile antenna engineered for amateur radio use across the 6-meter, 2-meter, and 70-centimeter bands. This antenna provides multi-band coverage from a single whip design, making it suitable for mobile installations that require access to low and high VHF, as well as UHF frequencies. Its robust construction ensures reliable performance in various mobile environments.

Image: The Comet SBB-15 mobile antenna shown in its retail packaging, highlighting its compact design and key specifications.

Specifications

Specification	Value
Frequency Coverage (6m)	50–54 MHz
Frequency Coverage (2m)	144–148 MHz
Frequency Coverage (70cm)	430–450 MHz
Power Handling	Up to 150 watts (maximum input)
Gain (6m)	Unity gain
Gain (2m)	3.8 dBi

Gain (70cm)	6.2 dBi
Antenna Type (6m)	1/4 wave
Antenna Type (2m)	5/8 wave
Antenna Type (70cm)	5/8 wave × 2
Impedance	50 Ohms
VSWR	Less than 1.5:1
Connector Type	PL-259 (UHF male)
Length	Approximately 57 inches (1.45 meters)
Construction	Multi-section stainless steel whip
Item Weight	9.6 ounces
Product Dimensions	61 x 1 x 1 inches

Setup and Installation

The Comet SBB-15 antenna requires a standard PL-style mobile antenna mount (sold separately) for installation. Proper mounting and grounding are crucial for optimal performance and safety.

1. **Mounting Location:** Select a mounting location on your vehicle that provides a clear line of sight and a good ground plane. Common locations include the trunk lid, fender, or roof. Ensure the mount is securely fastened to the vehicle's metal body for effective grounding.
2. **Cable Routing:** Route the coaxial cable from the antenna mount to your radio, ensuring it is protected from sharp edges, heat, and moisture. Avoid kinking or excessively bending the cable.
3. **Antenna Assembly:** Securely attach the SBB-15 antenna to the PL-style mount. Ensure the PL-259 connector is tightened properly to prevent signal loss and moisture ingress.
4. **SWR Tuning:** After installation, it is essential to check and tune the antenna's Standing Wave Ratio (SWR) using an SWR meter. While the SBB-15 is designed for broad frequency coverage, minor adjustments may be necessary to achieve an SWR of less than 1.5:1 across your desired operating frequencies. Refer to your radio's manual for specific SWR tuning procedures.

Your browser does not support the video tag.

Video: This video demonstrates the general assembly and mounting of a mobile radio antenna, similar in principle to the Comet SBB-15. It provides visual guidance on connecting the antenna to its base and securing it.

Operating Instructions

The Comet SBB-15 is designed for multi-band operation on amateur radio frequencies. Ensure your radio is properly configured for the desired band and power output.

- **Frequency Selection:** The antenna covers 50-54 MHz (6 meters), 144-148 MHz (2 meters), and 430-450 MHz (70 centimeters). Select the appropriate frequency band on your amateur radio transceiver.
- **Power Output:** The antenna can handle up to 150 watts of input power. Do not exceed this limit to prevent damage to the antenna or your radio equipment.

- **VSWR Monitoring:** Regularly monitor your SWR, especially when changing operating frequencies or after any physical impact to the antenna. High SWR can indicate a problem and may damage your radio's final amplifier.
- **Environmental Considerations:** While robust, avoid operating the antenna in extreme weather conditions that could cause physical damage, such as severe ice buildup or high winds.

Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your Comet SBB-15 antenna.

- **Inspect Connections:** Periodically check all connections, including the antenna to the mount and the coaxial cable to the radio, for tightness and corrosion. Clean any corroded contacts.
- **Clean Antenna:** Keep the antenna whip and base clean from dirt, grime, and road salt. Use a mild soap and water solution, then rinse thoroughly.
- **Physical Inspection:** Inspect the antenna for any signs of physical damage, such as bends, cracks, or loose components. Address any issues promptly to prevent further damage or performance degradation.

Troubleshooting

If you experience issues with your Comet SBB-15 antenna, consider the following troubleshooting steps:

- **High SWR:**
  - Check all connections for tightness.
  - Inspect the coaxial cable for damage (kinks, cuts).
  - Verify proper grounding of the antenna mount to the vehicle chassis.
  - Ensure the antenna is not obstructed by nearby metal objects.
- **Poor Reception/Transmission:**
  - Confirm your radio is set to the correct frequency and mode.
  - Check the antenna's SWR; high SWR can severely impact performance.
  - Ensure the antenna is mounted in a clear, unobstructed location.
  - Test with a known good antenna or cable if possible to isolate the issue.

Warranty and Support

For specific warranty information regarding your Comet SBB-15 mobile antenna, please refer to the documentation provided with your purchase or contact Comet customer support directly. Warranty terms typically cover manufacturing defects and vary by region and retailer.