Diamond Antenna D130NJ

Diamond Antenna D130NJ Super Discone Antenna Instruction Manual

Model: D130NJ

1. Introduction

This manual provides detailed instructions for the assembly, installation, operation, and maintenance of your Diamond Antenna D130NJ Super Discone Antenna. The D130NJ is designed for wideband reception and transmission across a broad frequency range.

2. Key Features

- Wideband frequency coverage: 25 MHz to 1300 MHz.
- Robust construction for outdoor use.
- N-type connector for reliable signal integrity.
- Suitable for various radio applications including scanning and amateur radio.

3. Package Contents

Before proceeding with assembly, please verify that all components are present and undamaged. The package should contain:

- Main antenna body (center mast, radiating elements, ground plane elements)
- Mounting hardware (U-bolts, nuts, washers, mast clamp)
- Instruction sheet



Figure 1: Fully assembled Diamond Antenna D130NJ Super Discone Antenna. This image shows the central mast, the upper radiating elements forming a cone, and the lower ground plane elements forming a discone shape, all made of metallic rods.

4. Setup and Installation

Proper installation is crucial for optimal performance and safety. Read all instructions carefully before beginning.

4.1 Safety Precautions

- **WARNING:** Never install the antenna near power lines. Contact with power lines can be fatal.
- Always wear appropriate safety gear, including gloves and eye protection.
- Ensure the mounting location is structurally sound and can support the antenna's weight and wind load.
- Consider grounding the antenna mast for lightning protection according to local electrical codes.

4.2 Assembly Steps

1. **Unpack Components:** Carefully remove all parts from the packaging and lay them out on a clean, flat surface. Verify against the package contents list.
2. **Assemble Radiating Elements:** Attach the upper radiating elements (the shorter rods) to the top section of the main antenna body. Ensure they are securely fastened.
3. **Assemble Ground Plane Elements:** Attach the lower, longer ground plane elements to the bottom section of the main antenna body. These elements typically angle downwards.
4. **Connect Coaxial Cable:** Once assembled, connect your N-type coaxial cable to the antenna's N-connector. Ensure a tight, weather-sealed connection.

4.3 Mounting the Antenna

The D130NJ is designed for mast mounting. A sturdy mast (not included) is required.

1. **Select Mounting Location:** Choose a location as high as possible and clear of obstructions (buildings, trees, metal structures) to maximize performance.

2. **Attach Mast Clamp:** Secure the provided mast clamp to the antenna's central mast section using the U-bolts, nuts, and washers.
3. **Mount to Mast:** Carefully raise the antenna and attach the mast clamp to your existing or newly installed mast. Tighten all hardware securely.
4. **Route Coaxial Cable:** Route the coaxial cable safely down the mast and into your operating area, avoiding sharp bends and securing it to prevent damage.

5. Operating Instructions

The Diamond Antenna D130NJ is a wideband discone antenna suitable for both reception and transmission within its specified frequency ranges.

- **Reception:** Connect the antenna to your scanner, receiver, or transceiver's antenna input. The antenna provides excellent reception across 25 MHz to 1300 MHz.
- **Transmission:** For transmission, ensure your radio operates within the antenna's specified transmit frequency ranges and power limits.
- **Power Rating:**
  - 144 MHz and Up: 200 Watts
  - 6 Meters (50 MHz): 20 Watts FM, 50 Watts PEP
- **SWR:** The discone design inherently offers a relatively low SWR across its wide frequency range, making it suitable for general-purpose use without extensive tuning.

6. Maintenance

The D130NJ antenna is designed for durability and requires minimal maintenance.

- **Regular Inspection:** Periodically inspect the antenna and mounting hardware for any signs of corrosion, loose connections, or physical damage, especially after severe weather.
- **Cleanliness:** Keep the antenna elements clean from dirt, dust, and debris. A gentle wipe with a damp cloth is usually sufficient. Avoid abrasive cleaners.
- **Connector Care:** Ensure the N-connector remains clean and dry. Consider using weatherproofing tape or sealant around the connector to prevent moisture ingress.

7. Troubleshooting

If you experience issues with your D130NJ antenna, consider the following common troubleshooting steps:

- **Poor Reception/Transmission:**
  - Check all cable connections for tightness and proper seating.
  - Inspect the coaxial cable for damage (kinks, cuts).
  - Ensure the antenna is mounted as high and clear as possible from obstructions.
  - Verify your radio's settings and frequency selection.
- **High SWR (for transmit applications):**
  - Confirm the antenna is correctly assembled and all elements are securely attached.
  - Check the coaxial cable and connectors for faults.

- Ensure the transmit frequency is within the antenna's specified range for low SWR.

- **Physical Damage:** If any elements are bent or broken, contact Diamond Antenna support for replacement parts or repair advice.

8. Specifications

Feature	Specification
Model Number	D130NJ
Frequency Range (Reception)	25 MHz - 1300 MHz
Frequency Range (Transmission)	50 MHz (6M), 144 MHz (2M), 430 MHz (70cm), 900 MHz, 1200 MHz
Power Rating (144 MHz and Up)	200 Watts
Power Rating (6M / 50 MHz)	20 Watts FM, 50 Watts PEP
Connector Type	N-Type
Antenna Length	5.6 feet (approximately 1.7 meters)
Gain (Nominal)	2 dBi
Item Weight	2.44 pounds (approximately 1.1 kg)
Product Dimensions (Packaged)	33 x 5 x 2 inches (approximately 83.8 x 12.7 x 5.1 cm)
Color	Silver

9. Warranty and Support

For warranty information, technical support, or replacement parts, please contact Diamond Antenna directly or refer to their official website. Keep your purchase receipt as proof of purchase.
Manufacturer: Diamond Antenna

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