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iDili JPC-7

iDili JPC-7 Multi-Band Portable HF Shortwave Antenna

User Manual

1. Introduction

This manual provides comprehensive instructions for the assembly, operation, and maintenance of your iDili JPC-7 Multi-Band Portable HF Shortwave Antenna. Designed for ham radio operators, particularly for QRP (low power) and outdoor portable use, this antenna offers versatility across multiple HF bands. Please read this manual thoroughly before attempting to set up or operate the antenna.

2. Safety Information

- **Electrical Hazards:** Never install or operate the antenna near power lines or electrical equipment. Contact with power lines can be fatal.
- **Lightning:** Do not install or adjust the antenna during a thunderstorm. For permanent installations, ensure proper grounding.
- **Stability:** Ensure the antenna is securely mounted and stable, especially in windy conditions, to prevent it from falling and causing injury or damage.
- **Physical Injury:** Be cautious when handling antenna elements, as they may have sharp edges or pinch points.

3. Package Contents

Verify that all components are present before proceeding with assembly. The iDili JPC-7 antenna system typically includes the following items:

- Antenna Base Unit (JPC-7 ANTENNAS)
- Coil Units with Sliding Regulators (2 units)
- Telescopic Whip Antennas (2 units)
- Black Rod Sections (multiple units, typically 4)
- Mounting Adapter/Connector
- Thumb Screws and Washers

- Golden Connectors/Terminals
- Carrying Bag
- Balun/Feed Point Connector (optional, may vary)



Figure 3.1: All antenna components neatly organized within the provided carrying case.



Figure 3.2: A complete overview of all individual components included with the iDili JPC-7 antenna system.

4. Setup Instructions

Follow these steps to assemble your iDili JPC-7 antenna:

1. **Prepare the Base:** Attach the antenna base unit to a suitable mast or tripod using the provided mounting adapter and thumb screws. Ensure it is stable and vertical.
2. **Connect Rod Sections:** Screw the black rod sections into the antenna base. The number of rod sections used may vary depending on your desired configuration and band.
3. **Install Coil Units:** Attach the two coil units to the ends of the rod sections. These coils feature sliding regulators for band selection.

4. **Attach Whip Antennas:** Screw the telescopic whip antennas onto the outer ends of the coil units.
5. **Extend Whips:** Fully extend the telescopic whip antennas.
6. **Band Selection (Coil Adjustment):**
    - For the **20-meter band**, move the slider contact on the coil to the gold mark position. Then, shorten each unilateral rod antenna by approximately 10 cm. Fine-tune with the whip antenna.
    - For the **40-meter band**, move the slider contact to the silver mark position.
    - For the **21 MHz band**, ensure two turns are used on each side of the rod antenna, with all rods fully extended.
7. **Connect Coaxial Cable:** Connect your coaxial cable from your transceiver to the antenna's feed point connector.



Figure 4.1: Overview of the primary antenna components before assembly.



Figure 4.2: Detail of the coil units and their connection points.



Figure 4.3: The iDili JPC-7 antenna fully assembled and deployed in an outdoor environment.



Figure 4.4: Detailed view of the antenna's central hub and connections during field deployment.

5. Operating Instructions

After assembly, proper operation involves tuning the antenna for optimal performance on your desired band.

1. **Band Selection:** As described in the setup section, adjust the sliding regulators on the coil units to the appropriate mark (gold for 20m, silver for 40m) for your target operating frequency.
2. **Initial Tuning:** With the whip antennas fully extended (or adjusted as per 20m instructions), perform an initial SWR (Standing Wave Ratio) check using an antenna analyzer or your transceiver's built-in SWR meter.
3. **Fine-Tuning:** Adjust the length of the telescopic whip antennas incrementally to achieve the lowest possible SWR (ideally 1.5:1 or lower) on your desired operating frequency within the selected band. Small adjustments can significantly impact SWR.
4. **Power Levels:** This antenna is designed for QRP operation. Adhere to safe power limits as specified by your radio equipment and antenna capabilities.
5. **Environmental Factors:** Antenna performance can be affected by surrounding objects, ground conditions, and weather. Adjustments may be necessary when relocating the antenna.

6. Maintenance

Regular maintenance ensures the longevity and reliable performance of your antenna.

- **Cleaning:** Periodically wipe down all components with a clean, dry cloth. Avoid abrasive cleaners or solvents.
- **Inspection:** Before each use, inspect all connections, screws, and antenna elements for any signs of wear, corrosion, or damage. Ensure all parts are securely fastened.
- **Storage:** When not in use, disassemble the antenna and store it in its carrying bag in a dry, cool place away from direct sunlight and extreme temperatures.
- **Lubrication:** If telescopic sections become stiff, a small amount of silicone grease can be applied to the sliding surfaces, avoiding electrical contacts.

7. Troubleshooting

If you encounter issues with your iDili JPC-7 antenna, consider the following common problems and solutions:

Problem	Possible Cause	Solution
High SWR	Incorrect whip length; coil slider position incorrect; faulty coaxial cable; proximity to objects.	Adjust whip length; verify coil slider is at correct mark; check coaxial cable and connectors; move antenna away from obstructions.
Poor Reception/Transmission	High SWR; incorrect band selection; antenna not properly assembled; environmental interference.	Tune SWR; confirm correct band setting; re-check all connections; try relocating antenna to a clearer area.
Loose Connections	Vibration during transport or use; insufficient tightening during assembly.	Hand-tighten all threaded connections and thumb screws. Avoid over-tightening.

8. Specifications

- **Model Number:** JPC-7
- **Manufacturer:** iDili
- **Antenna Type:** Multi-Band Portable HF Shortwave GP Antenna (Mini-buddipole style)
- **Supported Bands:** 20-meter, 40-meter, 21 MHz (and others with tuning)
- **Power Source:** Not applicable (passive antenna)
- **Color:** Gold, Silver (components)
- **Item Package Quantity:** 1

9. Warranty and Support

The iDili JPC-7 antenna comes with a **180-day warranty** from the date of purchase, covering manufacturing defects. Please retain your proof of purchase for warranty claims.
For technical support, troubleshooting assistance beyond this manual, or warranty inquiries, please contact your retailer or the manufacturer directly through their official support channels. Provide your product model number (JPC-7) and a detailed description of the issue to facilitate a quicker resolution.

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