α ALPHA ANTENNA®

Model – EmComm Loop

1. Introduction

Thank you for choosing the Alpha Antenna EmComm Magnetic Loop Antenna. This compact, high-performance antenna is designed for **emergency communications (EMCOMM)**, portable operations, and situations where space is limited. It offers efficient HF/VHF/UHF coverage with quick deployment and minimal setup.

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2. Specifications

- **Frequency Coverage:** 7.0–30 MHz (HF) and VHF UHF bands
- **Power Handling:** 100W PEP SSB / 50W CW / 10W Digital
- **Antenna Type:** Magnetic loop
- **Tuning Method:** Manual capacitor adjustment
- **Connector:** SO-239

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3. Package Contents

- Magnetic loop assembly
- Variable tuning capacitor housing
- Tripod or mounting base
- Coax feedline with BNC or SO-239 connector
- Carry/storage bag
- Masting

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4. Safety Precautions ⚠

- **RF Safety:** Maintain at least 10 feet (3 meters) distance from the loop when transmitting at high power.
- **Weather:** Avoid operating in thunderstorms or high winds.
- **Power Limits:** Do not exceed the manufacturer's rated power for your mode.

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5. Assembly Instructions (Unpack all components and inspect for damage.)

1. **Assemble and insert the masts** into the hole on the housing tuning box.
2. **Attach the Inner loop** to the outer loop with the coax clips.
3. **Attach the loop** to the tuning capacitor housing using the provided connectors.
4. **Secure the housing** to a stable tripod with the built in adapter or use the included legs.
5. **Ensure all connections** are tight.
6. **Connect the coax** from the Inner Loop to your transceiver.

   See Figure 1 – Assembled Depiction on the last page.

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6. Set up and Tuning

1. **Set up** the antenna in an open area, away from large metal objects.
2. **Set your tuner** into bypass mode.
3. **Select frequency** on your transceiver.
3. **Adjust power to 5W** before tuning and set mode to FM.
4. **Adjust the tuning knob** slowly while monitoring SWR.
5. **Fine-tune** until SWR is at its lowest point (ideally 1.9:1 or better).
6. **Transmit** using the least amount of power needed to accomplish contact.
    1. **This saves** battery life and maximizes operational safety.

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7. Tips

- **Orientation Matters:** Rotate the loop for best signal reception or rejection of noise.
- **Height:** Even 3–6 feet above ground can yield good results; higher may improve performance.
- **Band Changes:** Retune each time you change frequency significantly.
- **Portable Use:** Ideal for POTA, SOTA, field day, or emergency deployments.
- **If SWR is high** across the band, check coax and connections.

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8. Maintenance

- Wipe down loop and capacitor housing after outdoor use.
- Store in a dry location to prevent corrosion.
- Periodically check connectors for tightness and cleanliness.

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9. Troubleshooting

Issue	Possible Cause	Solution
High SWR	Poor tuning or bad feedline	Retune, check coax
Weak signals	Obstructions or low height	Relocate antenna to open space
High noise floor	Nearby electronics interference	Move away from noise sources

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10. Warranty & Support

Your Alpha Antenna 100W Magnetic Loop is covered by a limited manufacturer warranty. For service, contact Alpha Antenna with proof of purchase.
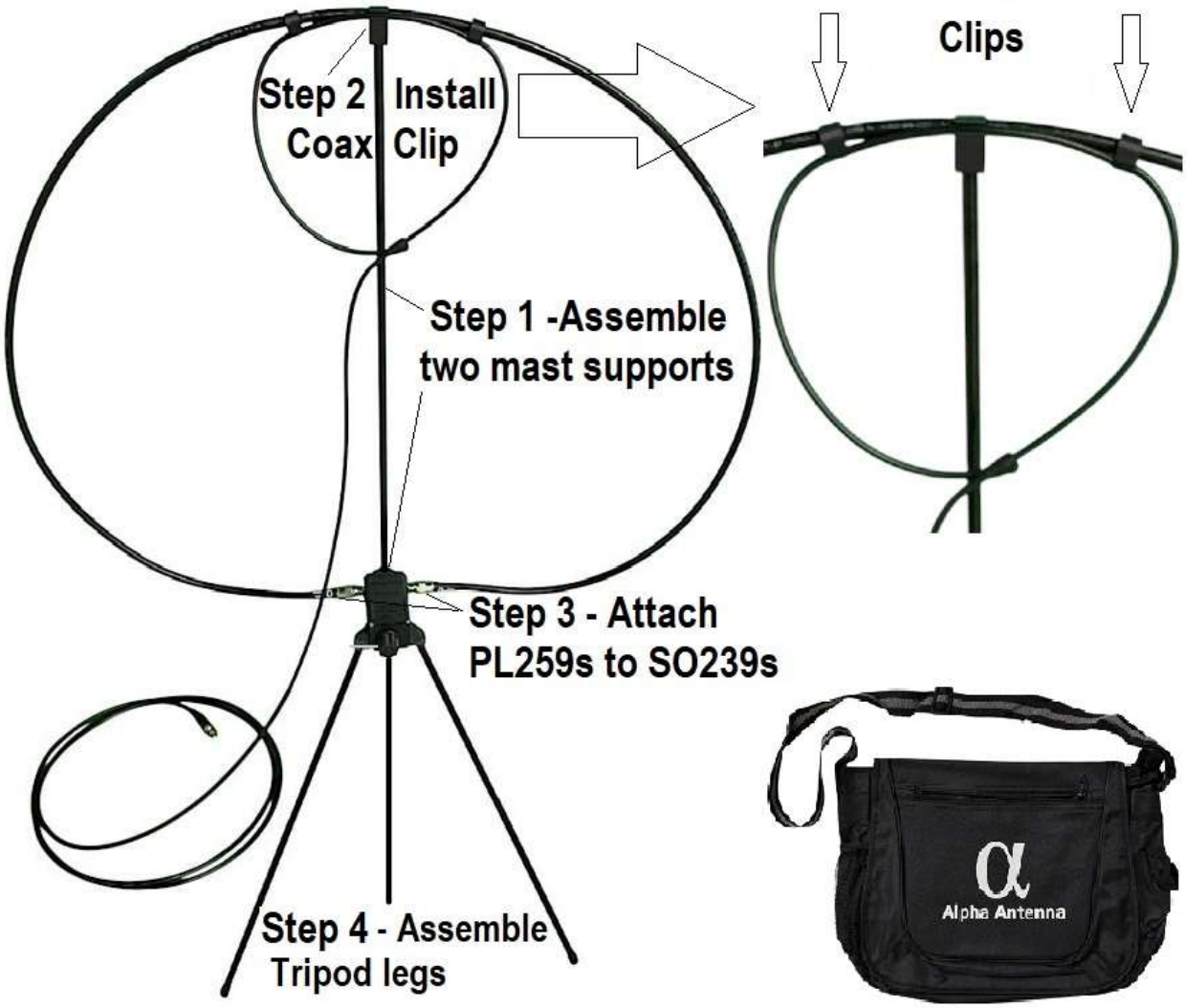
FIGURE 1 - Assembled Depiction