

OPERATING AND MAINTENANCE MANUAL

LIF SERIES

INTERFEROMETER ANTENNA ACCESSORY

FOR LH SERIES LITTLE L-PER DIRECTION FINDERS

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INTRODUCTION

The L-Tronics Interferometer Antenna Accessory is used with the L-Tronics Little L-Per LH Series of hand-held direction finder receivers. It enables high precision ground DF bearing determination in the presence of substantial reflections of signals from nearby objects. Two people are required for operation of the L-Per Interferometer Accessory.

Interferometer DF is usually used in the initial stages of a search to accurately deploy search teams and in stand-off situations where location by triangulation must be used because of the difficulty of travel for homing. The interferometer technique is not suitable for DF from moving vehicles or aircraft.

The interferometer is a powerful tool, but it is not a solution for all DF problems. Improperly used, the interferometer is subject to large errors or ambiguities. To avoid these errors, the simple operating procedures **MUST BE FOLLOWED EXACTLY!**

We wish to thank Mr. Rick Goodman of the New Mexico Search and Rescue Board and Mr. Roger Chaffin of the National ELT (Emergency Locator Transmitter) Location Team, who developed the interferometer field technique.

Equipment Supplied

- 1 Antenna crossbar, 118-126 MHz
- 1 Long mast assembly, no cable
- 1 5.5 Wavelength coax cable with connectors

- 1 Instruction manual

Equipment Required but not Supplied

- 1 Little L-Per DF receiver, Model LH-10 or LH-16, with long mast and 118-126 MHz antenna
- 1 Sighting compass

OPERATIONAL PROCEDURES

Listed below is a summary of the steps necessary to take an accurate interferometer bearing. A decal that can be attached to the L-Per receiver listing these steps is included. The steps are used as headings for the explanations that follow. An understanding of the underlying theory of operation of the interferometer will show how it achieves its accuracy and will make the operating procedures easier to remember. The theory of operation is covered in a later section. A paper on general VHF DF techniques is also included.

Instructions Summary

1. FIND approximate direction. L-Per only
2. DETERMINE polarization. Set antennas
3. SEARCH for and avoid local signal "holes"
4. CONNECT harness, antenna arrows toward signal
5. SET Rec mode, Sens ½ scale, 6 feet apart
6. NULL the system by moving antenna with receiver
7. SEPARATE antennas fully, maintaining null
8. SIGHT between antennas. +90 degrees for bearing

Explanations

1. FIND approximate direction. L-Per only.

Before the interferometer kit is attached to the Little L-Per, an approximate bearing must be taken with the basic unit. The steps required are no different than those used without the interferometer except that the site chosen must have space to separate the interferometer antennas (you'll need about 30 feet). Because the interferometer requires detecting a null, or drop, in signal