BLUE RIDGE MOUNTAIN RESCUE GROUP

ELT Direction Finding - The Little L-Per

Training Session Outline

Edited by: Brian A. Wheeler

December 1986

I. What is an ELT

A. Location on Aircraft
B. Transmission Frequencies

II. Direction Finding devices

A. Portable aircraft radio
B. Beeline DF - Used by CAP
C. Little L-Per - Used by CAP and ASRC
D. Mobile Doppler Scanning antennas
E. CAP Aircraft
F. Commercial Aircraft
G. Satellite systems - COSPAS/SARSAT

III. Description and assembly of Little L-Per

IV. Operation of Little L-Per

A. Sensitivity Control

1. Start with control at minimum (counterclockwise)
2. Set mode to DF
3. Turn up sensitivity until DF indication is noticed as antenna is rotated
4. Anytime turning up sens. results in decrease of DF indication, the receiver has been overloaded. Turn the sensitivity down below this point.

B. Polarization of antenna and DF or RECeive Mode

1. Compare signal strength in REC mode for both horizontal and vertical antenna polizations
2. If the signal is stronger in the Horiz., take bearings in REC mode with a Horiz. antenna
3. If the signal is equal or stronger in the vertical, use the DF mode with vertical antenna

C. The Bearing site

1. Find a site where there is a strong signal
2. Site should be clear of powerlines, fences, large trees, large rocks, vehicles, and other people on team.
3. A high point is preferred

D. Taking a bearing

Info from: National ELT Location Team (NELT)
"New techniques for Location of ELT Transmitters"

3. Noise Sources
1. Powerlines
= strength on 121.6 + 121.5 + no "whelp" probably noises

E. Sources of Error
1. Local Disturbance of wavefront
Solution: Baseline dvg.
2. Multipath (Reflections)
- Little can be done except to recognize it - practice