

# Simple VHF Direction Finding

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A vertical strip on the left side of the slide shows a topographic map with contour lines, a yellow path, and a red crosshair.

# Requirements

- Knowledge of VHF Propagation
- Methodical, Patient Approach
- Simple Land Navigation Skills
- Simple DF Skills
- Simple Tools
- Simple Radio Equipment



# VHF Propagation

- Straight Line, but ...
- Multipath
- Masked by Terrain and Conductive Objects
- Mostly Symmetrical (advanced DF events defeat this)

A vertical strip on the left side of the slide shows a fragment of a topographic map with contour lines and a yellow path. The rest of the slide has a dark teal background with faint, light blue contour lines.

# Methodical Approach

- Keep a Log
- Plot Bearings on Map
- Work the Right Angles
- Use Terrain to Your Advantage



# Simple Land Navigation skills

- Know How to Read a Topographic Map
- Know How to Use a Compass
- Know How to Adjust for Declination
- Know How to Plot a Bearing



# Automated LOP Plotting

- “Foxhunt” application for iPad or iPhone.
- Take a bearing with your DF equipment
- Aim iPad or iPhone in that direction.
- Your current position and line of position is plotted on a map.
- Repeat at each bearing.



# Simple Initial DF Skills

- Signal Strength Monitoring
- Omnidirectional Fade and Peak Plotting
- Portable Beams
  - 3 Element Tape Measure Yagi (~\$10)
  - Cubical Quad
  - Log Periodic Array





# Simple Close in DF Skills

- Body Shielding Null
- Aluminum Foil Covered Tube or Can
- Cheap Attenuators
  - Junk Antenna
  - No Antenna
  - Tuning Off Frequency
  - Gap Attenuator





# Tools to make it easier

- Team (Driver, DF'er, Plotter/Navigator)
- Compass with Declination Adjustment
- Topographic Maps
- Aeronautical Course Plotter



# Radio equipment to make it easier

- Headphones
- Small Beam Antenna
- Attenuator
- Time Difference Of Arrival Antenna Array
- Doppler Arrays



# Practice Techniques at Home

- Use Known Transmitters such as
  - NWR Transmitters
  - Repeater outputs
  - Repeater inputs

# How a Ham Foxhunt works.

- Fox hides transmitter within 10 KM (5 mile) radius of start point.
- All DF'ers meet at start point.
- Odometers are recorded. Some events are scored by mileage and some by elapsed time.
- Ending time and post –event meeting place announced.
- Safety Frequency/Phone Number is announced.
- Fox is turned on at start time
- Teams hunt for transmitter and note time and mileage when they find it.
- Everyone meets at restaurant to share in fun at end, even if they didn't find it.

A vertical strip on the left side of the slide shows a topographic map with contour lines, a yellow path, and a red location marker.

# IARU RDF Events

- On 2 and 80 Meters
- Orienteering event on foot
- Multiple transmitters.
- Fastest time wins

A topographic map with contour lines and a grid, serving as the background for the slide. The map is oriented vertically on the left side.

# More Information

- KØOV “Homing In” column in CQ Magazine
- Boy Scout Handbook for map skills
- KØOV Homing In Site  
<http://www.homingin.com/>
- WB2HOL Tape Measure Yagi  
[http://theleggios.net/wb2hol/projects/rdf/tape\\_bm.htm](http://theleggios.net/wb2hol/projects/rdf/tape_bm.htm)



# Local Experienced DF'ers

- Steve Gingo, KB2RMS
- Kip Burnett, KB2EGI
- Gary Wilson, K2GW





What's next?