



GETTING STARTED WITH FOX HUNTING

Ham Bootcamp

Spring 2022

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Radio Direction Finding (RDF)/Fox Hunting

What is “Fox Hunting” or Radio Direction Finding (RDF)?

- Radio Direction Finding is a way to find a hidden radio transmitter
- It's like Geocaching with a radio



Why do we do it?

- As with many things in amateur radio it is a way to practice useful skills
- It's used to rescue lost or injured people
- It's used to track wildlife
- It's used to track down a station not following the FCC rules
- There are RDF competitions to encourage skill development
- **It's fun!**



Fox Hunting Gear

What's Needed?

- An inexpensive hand-held radio
 - Receive only, no license needed
 - A dual-band radio is best
 - A signal strength meter is helpful
- An antenna
 - Rubber Duck that comes with the radio is OK to start with
 - A directional antenna can help
- A means to make the signal weaker when you get close
 - Small directional antenna
 - Loop antenna – ***NULL is through open side of loop***
 - A ***Rubber Duck*** antenna
 - Tune radio to 3X Fox frequency or off frequency



Radio Direction Finding (RDF)/Fox Hunting

What am I Trying to Find?



Radio Direction Finding (RDF)/Fox Hunting

Fox Examples

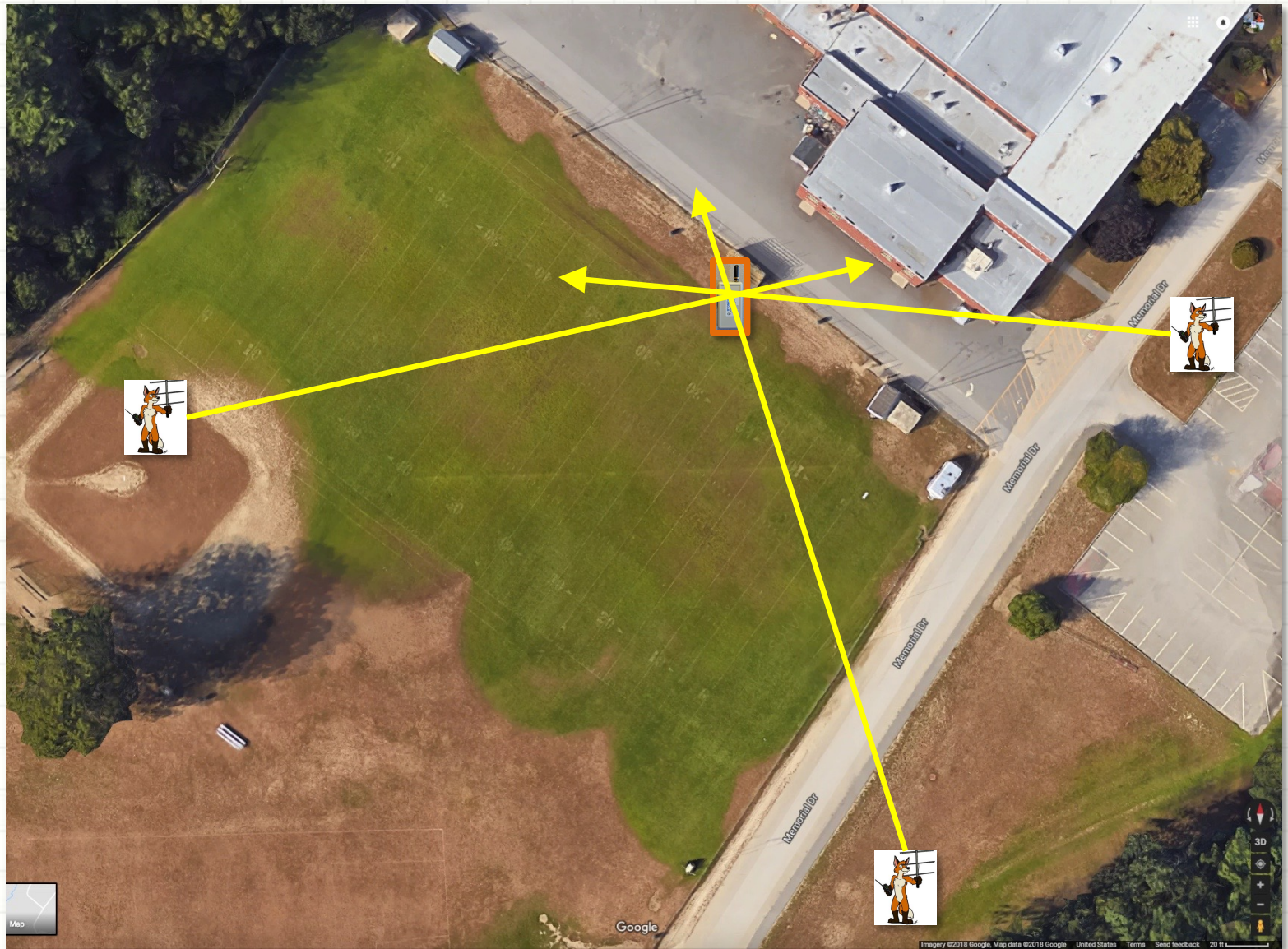
Example: N1FD fox frequencies:

- N1FD/Fox 0 146.595 MHz (.5 Watts)
- N1FD/Fox 1 146.000 MHz (15 mW)
- N1FD/Fox 2 146.000 MHz (15 mW)



Locating the Fox

Begin by taking some Bearings, then Triangulate...



Locating the Fox

How do you take a bearing?

- Best accuracy comes from finding the direction where the fox is ***weakest*** – it will be located in the opposite direction
 - Even better is to find a range of directions where you can't hear it, pick the center, and turn 180°
- Open the radio Squelch and use the radio's signal strength meter
- How do you make the fox sound weaker?
 - Use a directional antenna (Yagi, Loop, or a Rubber Duck)
 - Change the orientation of your antenna (vertical to horizontal)
 - Use your body as a signal block
 - Tune your radio off frequency a bit in +/- 5kHz steps
 - Tune your radio to 3X the Fox frequency (the third Harmonic) –
Example: 146.595 MHz Fox x 3 = 439.785 MHz
 - Your strength meter on your HT can be very helpful with this!
 - Some combination of these will usually work



Some Final Tips

- Try working as a team
 - Two heads are better than one...
 - Its more fun!
- Take bearing from high places
- Use your radio's signal strength meter
- Beware of reflected signals
 - Does your latest bearing make no sense?
 - Bridges, buildings, etc. will reflect signals, giving incorrect headings
 - Did the Fox appear to change location by itself?
 - Try moving to a different spot and take another bearing to confirm you reading...
- When you get close, it may be best to put the radio down and just look hard for the Fox's final hiding place....



Let's Go Fox Hunting!!



Questions?

To Learn More:

Check out the Nashua Area Radio Society's Tech Night Program at:

n1fd.org/tech-night

Become an Internet Subscriber (or members of NARS):

n1fd.org/join-us

Much more information, pictures and video are available on our Blog at:

stationproject.blog

