

Results of the 2016 CQ World Wide Foxhunting Weekend

BY JOE MOELL,* KØOV

“**W**arm up your antennas, charge your batteries, and gather up your maps. Hunting season is open and you don’t need a license for this one!” Those were the creative words of Tim Bosscher, K8TB, as he announced the “Spring is Almost Here” hidden transmitter hunt in Hudsonville, Michigan.

To Tim and his friends, looking for hidden radio transmitters is a favorite ham radio activity. For 19 years, *CQ Amateur Radio* has sponsored the annual World Wide Foxhunting Weekend to encourage hams and prospective hams everywhere to join the fun of using radio direction finding (RDF) techniques to track down transmitters that their fellow hams have put in unusual places. “Foxhunting” is just one name for this activity. You also may hear it called “T-hunting” or “bunny hunting.”

As always, my 2016 Foxhunting Weekend announcement in *CQ* brought a batch of hunt announcements and reports about hams having fun. Rules were determined locally so few hunts were alike, except for the on-foot, radio-orienteeing events that followed standard rules of the International Amateur Radio Union. As you prepare for Foxhunting Weekend 2017, read on to find out how your fellow hams had a blast doing transmitter hunting all last year.

The most popular form of RDF contesting in the U.S. is the mobile T-Hunt on 2 meters. The Michigan rules are typical, as Tim described in his announcement: “Be at the starting point, get your odometer reading recorded and be ready to take off at 0900 hours. You’ll have two hours to roam the countryside looking for the vixen (female fox) before we call it quits and meet up for the post-hunt session where we’ll hear all the coulda, woulda, shoulda excus-



Five-year-old Jacob Sanderson helped his mother Patty, N9PLS, find 14 hidden transmitters in an hour during the on-foot foxhunt at the 2016 Dayton Hamvention®. (Photo by Bob Frey, WA6EZV)

es. Remember that being inexperienced doesn’t mean you can’t win.”

Foxhunting in Michigan is a warm-weather sport, but in other places, the temperature doesn’t matter. In South Windsor, Connecticut, Paul Gibson, N1TUP, gets it started on New Year’s Day afternoon. Unlike the Michigan hunts, where lowest elapsed mileage determines the winner, Paul’s hunt is won by the first team to find the fox.

“The fox will take a roll call at 1300 hours on the BEARS repeater,” Paul announced. “The repeater will be used for all communication and information sharing. The fox will be located within 20 air miles of the starting point, not within Hartford or Springfield, on publicly accessible property that will not require anything other than a standard passenger car for access. I encourage communication between participants and any fixed stations that can supply

helpful information to the hunters. Once you have spotted the fox, you should stop all transmissions. Pay attention. If someone says they are going to check an area and you never hear from them again, that might be a clue. Get bearings on the repeater input frequency, as that is the frequency the fox will be transmitting on. Do not hunt on the repeater output frequency as that will just lead you to the repeater.”

Sometimes there’s an unexpected ending to a mobile foxhunt. On such example took place August 26 on Long Island, New York, as reported by Larry Berger, WA2SUH: “Only Joseph Bizzaro, WJ2B, found the transmitter, which was on a ledge in a restroom at the dog park in West Hills County Park. We were at the entrance to the horse stables and the signal was extremely strong. We got out of the car and walked toward the horse barns. I came across

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Taped to a tree branch is one of 27 little transmitters for the 2016 Hamvention® on-foot foxhunt. (Photo by Dick Arnett, WB4SUV)



Blind foxhunters with sighted helpers are welcome at southern California on-foot transmitter hunts. At a West Side Amateur Radio Club session in the Kenneth Hahn State Recreation Area, Richard McDonald, KK6MRH, is getting bearings and navigating to a hidden transmitter with assistance from his wife, Charina. (Photo by Joe Moell, KØOV)

a yellow police tape and saw two park rangers on the other side. I stepped over the tape and was asked what I wanted. I told them and they said that this area was closed and, by the way, it is inappropriate to cross a police tape.

“Earlier in the day, illegal dumping had been found at the riding stables and it had been cordoned off with the yellow tape. Ron hid the transmitter just to the south of this area and the rangers came over and told him to vacate. So the rest of us headed to the Sweet Hollow Diner. It was a very frustrating evening for the hunters, but what are the chances that

the transmitter would be hidden at a crime scene?”

Ever Increasing Difficulty

When mobile foxhunters are new to the sport, the hunts should be simple, with one hider in his or her vehicle making occasional transmissions and perhaps giving clues after a while. Experienced hunters expect more of a challenge, so the hiders have to step up their game. Some spend hours staring at Google Earth, trying to find hiding places that are out of the way and difficult to access. They check topographical maps in

hopes of finding ways to reflect the fox signal and give false bearings to the hunters. The result is a hunt that can last a long time, such as the one near San Diego on April 2 that was dreamed up by Joe Coronas, N6SZO; Greg Spaulding, W6BAF; and Karen Spaulding, KI6FON. They set out two transmitters with 11-element Yagis, one aimed toward El Capitan and the other toward Lyon’s Peak. Even though the transmitters were only 0.7 mile apart, the signals seemed to be coming from two very distant places.

Mobile hunts for multiple transmitters like that are also an opportunity for audio trickery. Joe Loughlin, KE6PHB, described the hunt that he and Tony Boegeman, WA6ZMZ, organized for the San Diego hunters: “To add a twist, instead of clearly identifying each transmitter uniquely, all four transmitters played exactly the same audio for 15 seconds in sequence, providing the hunters with a constant but cycling signal to hunt. Since hunters were not told how many transmitters were in the hunt, their job was to identify each transmitter by bearing only.”

Going a step further, Bob Thornburg, WB6JPI, wrote: “I have three Baofeng transmitters connected to DigiSpark Arduino computers set up to identify, in some arbitrary order, the same three transmitter numbers. The transmission is of random code tone and random speed and with random timing. The hunters have to unravel the mess.”

Many would-be foxhunters have work commitments on weekends and other prime foxhunting times. Others, especially newcomers, want a no-stress opportunity to carefully test their RDF equipment and learn how to use it effectively. For these folks, a hunt-anytime option is ideal. In Connecticut, Paul Gibson, N1TUP, fills that need with his user-commanded foxbox.

Even though it has a 2-watt transmitter, the battery in Paul’s foxbox typically lasts two weeks. When he deployed it in April, he wrote: “There is no designated starting place. While going about your travels, periodically try to activate it. Key your transmitter, ID and then press DTMF 1. If the foxbox can hear you, it will transmit its very distinctive sound for 30 seconds, ID, and then go back to sleep. You can make it transmit as often as necessary to find it.

“Once you are able to bring it up and hear it,” Paul continued, “please report that information to the other foxhunters via the group email list. Do not reveal its location, just your location and bearing. This then becomes a starting point for the others.”

After reading about the Connecticut fox-on-demand, Mike Hill, W8DER, of Byron Center, Michigan decided to provide something similar for foxhunters in the Wolverine state. So he built what he calls the Grand Rapids Version¹. In September, he sent a message to the Connecticut foxhunters: "We have been following your 2-week hunts for some time and finally decided to try a local extended hunt using your template. We started the hunt early Monday morning and have had four members of different clubs find the fox. Many others are trying and reporting locations where signals have been heard. As I sit here tonight, it is dark outside and raining cats and dogs. With my beam antenna, I can hear hunters still trying to find the fox even in these conditions. What fun we are having! Thank you CTFoxHunters group."

In these days of "see something, say something," it's wise to make sure that a hidden transmitter won't be considered to be a threat. In another group message, W8DER wrote: "After discussions with the supervisor of the Michigan State Police Bomb Squad, some changes were made. Two permanent labels were engraved and placed on the top of the box. In addition, a 'name tag' type message, sealed in plastic, is clipped to the top handle with two current phone numbers for additional information, my home phone and my cell phone. During a hunt, I am sure to keep my cell on at all times."

Taking it to the Woods

Every year brings more reports of Foxhunt Weekend events that are all on foot, no vehicles involved. These no-vehicle events draw a lot of interest from young people because they reward physical ability instead of driving and street navigation skills. Kids don't need driver's licenses or ham licenses to receive and to hunt. RDF gear for 2-meter, on-foot hunts can be very simple, just a handi-talkie with a small beam and an RF attenuator.

The annual foxhunt at the Dayton Hamvention® is perfect for family fun. As usual, the 2016 hunt took place at Sinclair Park, less than two miles from Hara Arena, on Saturday, May 21. Before the hunt, Bob Frey, WA6EZV; Dick Arnett, WB4SUV; Phil Smith, KG8AP; and his son, Ben, scattered to the four corners of the park and stashed 27 tiny transmitters. Hunters were given sheets listing the frequencies of the transmitters then they had 1 hour to locate as many of them as possible.

Nine teams and individuals searched for the foxes, including two blind per-



Anton James, VE7SSD, (at left) presented the crystal bunny award to Jan Vozenilek, VA7VJ, winner of the 80-meter portion of the Surrey Amateur Radio Club's annual on-foot foxhunt. (Courtesy of Surrey ARC)

sons who hunted with assistants. Mike Brost, WA9FTS, of the Chicago Foxhunters described the scene: "Some transmitters were in trees out in the open but covered by ivy. Others were on the outskirts of the park in the woods. There were picnics and parties going on nearby to add to the noise. Even though it had rained the day before, the ground and grass had dried out, making it easier to search through the heavy woods. In the end, Matt Sanderson, KC9SEM, was first with 24, but he missed the one right next to the start-up table. I missed that one also. I thought it was funny that a signal was coming from there but never checked it out. I found 16 transmitters for second place. My wife Patty, N9PLS, with Jacob, our 5-year-old, found 14 to take third. Tom Geletka, N9CBA, discovered nine and the other hunters from around the country found fewer." (*We're guessing that Hamvention organizers will be hunting for a new foxhunt location this year, closer to the new show location in Xenia. – ed.*)

Antennas

The measuring-tape Yagi² is a simple, safe, and very effective direction-finding antenna for 2-meter, on-foot foxhunts. It also makes an excellent club project. At all of our southern California on-foot transmitter hunts, including the annual Foxhunting Weekend session at Hillcrest Park in Fullerton, there is an opportunity for newcomers to build and test these antennas and offset type attenuators³ from kits.

Last summer, antenna building and foxhunting took place on a grand scale

in the most populous city in India. This two-day event was a joint effort of the Don Bosco Institute of Technology in Mumbai; the Institute of Electrical and Electronics Engineers, Mumbai section; and the Mumbai Amateur Radio Institute. I received this report from Shailesh Deshmukh, VU2LOC, of MARI: "The Yagi building workshop started with an introduction of antenna physics and fundamentals. A total of 57 students participated, including some college faculty members. Nineteen teams homebrewed their tape Yagis and learned how to tune them using an antenna analyzer. Day two began with an introduction to foxhunting, followed by four hunts. The third was particularly challenging, as students took around an hour and a half to locate the transmitter. All together it was an excellent event full of learning, experimentation, and fun. A video of the workshop and the hunts has been posted to YouTube⁴."

For physically fit hams of any age, a few local foxhunts with a measuring-tape Yagi can be the start of a lifetime of championship Amateur Radio Direction Finding (ARDF), also called *fox-tailing* and *radio-orienteeing*. Once a year, fox-tailing fans get together somewhere in the U.S. to see who is best. In 2016, USA's ARDF Championships took place near Killeen, Texas.⁵ Plans are under way for this year's championships, which will be in the Cincinnati area during August. They will be open to anyone of any age who can safely navigate and carry lightweight RDF gear from point to point in the woods for 5 kilometers or more. Details and reg-



The 2016 ARRL National Convention at the Orlando HamCation on the second weekend of February included a RDF class for youth. Faith Hannah Lea, AE4FH, is learning to use a measuring-tape Yagi for 2-meter foxhunting. (Photo by Larry Jacobs, WA7ZBO)

istration information will be in future “Homing In” columns.

On Saturday, May 21, Crescent Park in South Surrey, British Columbia, was the site of the annual Surrey ARC ARDF event with 23 participants. John Schouten VE7TI, provided this report in the SARC Communicator newsletter: “Course-setter Les Tocko, VA7OM, was onsite early and set out five 2- and 80-meter foxes in areas of the park. Les familiarized the rookies in attendance with transmitter location techniques and loaned some gear to get them started, if needed. At 10 a.m., after a briefing by event organizer Anton James, VE7SSD, the hunt was on. An excellent barbecue lunch followed, then the presentation of the coveted crystal bunny to the top score in the 80-meter group and the pink fur bunny to the best 2-meter top scorer.”

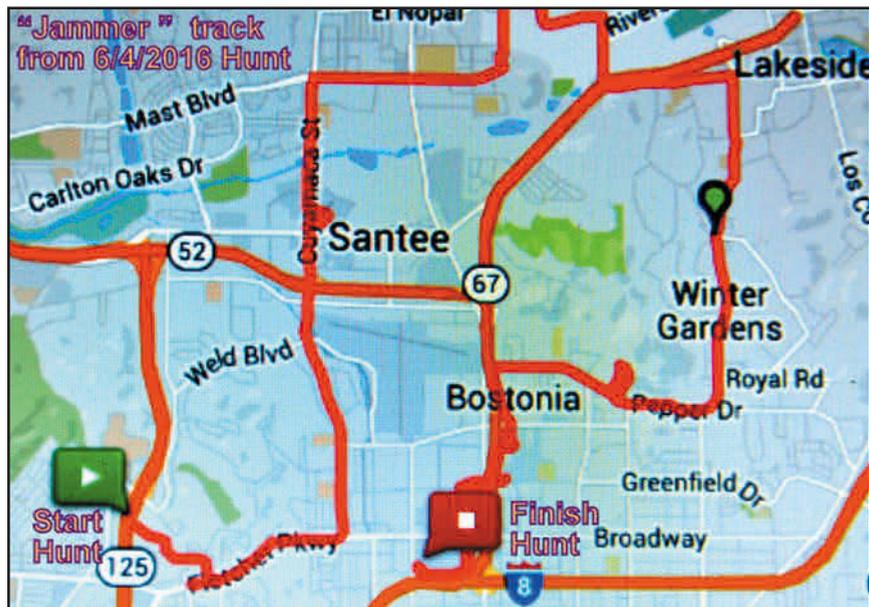
While the majority of hidden transmitter hunts are on 2 meters, they can be done on almost any ham band. You can read about techniques, which vary from band to band, in my October 2016 “Homing In” column. At the 2016 convention of the South East Radio Group at Mt. Gambier in south Australia on the second weekend of June, there were hunts on the 80-, 10-, 6-, and 2-meter bands plus 70 centimeters as part of the annual Australian Foxhunting Championships. You can see a video of the action, including some good aerial drone footage, on YouTube.⁶

Next Foxhunting Weekend — May 13-14, 2017

Mobile or on-foot, one transmitter or many, a radio foxhunt is sure to stir up activity in your ham club. Now is the time to plan for this year’s CQ World Wide Foxhunting Weekend, which will be May 13-14. CQ doesn’t impose any specific rules or offer any awards for Foxhunting Weekend. That’s up to you and the hams in your hometown. Your hunt can be for mobiles or all on foot. Use the international rules or make up your own. For many clubs, Foxhunting Weekend kicks off a season of regular transmitter hunts. For others, it’s a special once-a-year event, like Field Day. Since the primary objective is lots of hunt participation, we don’t insist that your event be on that weekend. Any time in the spring is fine with us.



These hams in Mumbai, India are still enthusiastic after two full days of building, training, and foxhunting. (Courtesy of Shailesh Deshmukh, VU2LOC)



Joe Corones, N6SZO, and Greg Spaulding, W6BAF, put on an unusual mobile transmitter hunt in El Cajon, California on the first weekend of June, starting from Grossmont Community College. A simulated "jammer" drove this track and hunters were encouraged to cooperate by sharing bearings and locations on a separate simplex frequency to intercept him as quickly as possible. Of course, they didn't get to see this track before the hunt.

If your club has always had one kind of hunt on Foxhunting Weekend, why not try something different this year? Some hams prefer the formalities of carefully-crafted boundaries, specifications for signal parameters, time limits, and so forth. Others are content just to have one or more signals to hunt. No need for any regulations, they say. Talk it up on the local repeater and see what your friends have in mind.

Foxhunting teaches an important skill — the ability to find the source of signals from afar. RDF is useful for public service and volunteer enforcement. It can even save lives. Most of all, it's fun. Give it a try, but make sure your group has safe fun. See to it that no one can be injured by your hidden transmitter or by trying to get to it.

Don't let the excitement of the hunt make you an unsafe runner or driver. Make sure that all transmitting and receiving antennas are eye-safe. Always be mindful of your own physical limitations and never take chances behind the wheel or in the forest.

Make your Foxhunting Weekend activities into a magnet for every club member. Better yet, include the whole community, especially young people. Invite a Scout troop to experience on-foot transmitter tracking or to ride along with the mobile hunters. Look for opportunities to incorporate foxhunting into Scout activities such as Camporees, Scout-O-Ramas and Jamboree-On-The-Air. Seek out other youth groups that might be interested.

Afterward, write up the results and send them to me. The list of information in a complete CQ Foxhunting Weekend report is posted at <www.homingin.com>. In addition to the details of date, location, hiders and winners, CQ's readers also want to know what was unique about your hunt and what lessons (positive and negative) you learned from it. Don't forget to include some sharp action photos. The higher the resolution, the better.

I am eager to read your reports of this year's foxhunting activities and the new ideas that you come up with. Happy hunting!

Notes:

1. <http://bit.ly/2gwcNGw>
2. <http://bit.ly/2gD8MFc>
3. <http://bit.ly/2gDbLNS>
4. <https://youtu.be/xowFzVx6dUg>
5. Full report in "Homing In" column for August 2016
6. <http://bit.ly/2gw4b2P>

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