

November 2013



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

**Inside this issue:**

<b>Captain's Corner</b>	<b>1</b>
<b>City/County Drill</b>	<b>2</b>
<b>OCRACES Meeting</b>	<b>3</b>
<b>Radio Rodeo</b>	<b>3</b>
<b>Welcome to WF6F</b>	<b>4</b>
<b>OCFA Open House</b>	<b>4</b>
<b>Cooperative T-Hunt</b>	<b>5</b>
<b>RACES/MOU News</b>	<b>6</b>
<b>Events Calendar</b>	<b>7</b>
<b>Meet your Members</b>	<b>8</b>

The Next  
OCRACES  
Meeting Is  
November 4, 2013  
1930 Hours  
  
840 N. Eckhoff Street,  
Suite 104, Orange  
  
Featured Speaker:  
Bob McFadden, KK6CUS,  
on Smartphone Apps



Orange County Sheriff's Department  
Communications & Technology Division

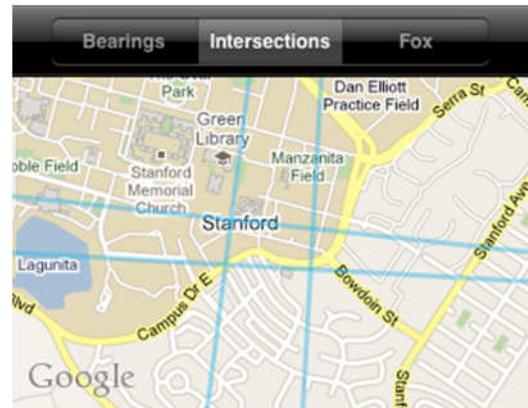
## Captain's Corner

*by RACES Captain Ken Bourne, W6HK, Chief Radio Officer*

### FoxHunt App

OCRACES is now holding cooperative T-hunts on the input of our 2-meter repeater, with bearings compared on one of our UHF repeaters. These hunts, which occur immediately after the second-Monday 2-meter net, provide excellent practice for quickly finding interference, by working together as a team. We seek to enhance our direction-finding (DF) capabilities with tools such as quads, yagis, loops, Doppler systems, step attenuators, offset attenuators, and apps such as FoxHunt for the iPhone and Triangulate for Android phones. I recently bought an iPhone 5S, and installed the FoxHunt app. It is an incredible tool for T-hunters and also for those who are professionally involved in locating interference to radio communications systems. Here is what I have discovered so far about the app.

With the FoxHunt app, a hunter points his iPhone in exactly the same direction indicated by the DF equipment aimed toward the fox. Tapping the "Bearings" tab brings up a map showing the hunter's location (automatically by the built-in GPS). When the hunter is satisfied that he has his best aim, he taps the "Add" button to add this bearing (position and angle) to the map. As the hunter moves, the bearing will remain rooted at the place where he took it, and the line will remain oriented as he had it when he added the bearing. Then he moves to another location and repeats the process. As he takes more bearings, he will see the lines overlap—just as if he had plotted this information on a map with a pro-



tractor and a ruler. As the hunter gets several bearings on the fox, he can zoom the map. He can also see a satellite image view in place of the street-map view, or he can display both at the same time. The hunter can view a list of bearings, with the most recent first. He can delete bearings that appear erroneous, and mark really good bearings with lots of stars. Once the hunter has two or three bearings, he would tap "Intersections" and the map view will change to show the intersections of his bearing lines. Then, by tapping "Fox," a candidate location for the fox will be computed and shown with a green pin. Bearings with more stars have more weight in this computation; bearings with no stars are ignored and will be shown as dotted lines on the map. When the hunter taps the pin, he will see the nearest geolocation from the mapping database. The geo-location also has a blue chevron. When the hunter taps it, FoxHunt will use the iPhone's built-in "Maps" to calculate driving directions from where he is to the fox.

## City/County/MOU Drill Handles Cyber-Attack

A simulated major power outage caused by a cyber-attack was the scenario for the City/County RACES & MOU ACS exercise conducted on Saturday, October 5, 2013, from 9:00 AM until 11:00 AM. Participating in the exercise were County of Orange RACES and RACES units from the cities of Brea, Costa Mesa, Cypress, Dana Point, Fountain Valley, Fullerton, Huntington Beach, Irvine, Laguna Beach, Los Alamitos, Mission Viejo, Newport Beach, Orange, San Clemente, San Juan Capistrano, Seal Beach, and Westminster. Also participating were the American Red Cross, the Hospital Disaster Support Communications System (HDSCS), and Orange County SKYWARN. OCRACES members participating from the EOC RACES Room included Chief Radio Officer Ken Bourne, W6HK, Assistant Radio Officer Ernest Fierheller, KG6LXT, Bob McFadden, KK6CUS, Sue Mickelson, KJ6LCJ, Fran Needham, KJ6UJS, and Tom Tracey, KC6FIC. Also at one of the operating positions was OCSD Communications & Technology Division Director Robert Stoffel, KD6DAQ.

OCRACES sent and received messages with all of the participating city and MOU units, using our repeaters for receiving and their repeaters or primary simplex frequencies for sending. The simplex net was conducted from the EOC RACES Room. Several messages were sent and received via Winlink, although messages sent to our tactical address had to be retrieved later.



**Messages were flowing swiftly at all positions during the City/County RACES & MOU drill.**



**OCSD Communications & Technology Division Director Robert Stoffel, KD6DAQ, sends outbound messages. Sue Mickelson, KJ6LCJ (left), receives inbound messages while Tom Tracey, KC6FIC, runs the simplex net.**



**Fran Needham, KJ6UJS, sends outbound messages from Position 1.**



**Ernest Fierheller, KG6LXT, receives inbound messages at Position 2.**



**Bob McFadden, KK6CUS, runs the Winlink station at Position 3.**

## Next OCRACES Meeting: November 4th

The next County of Orange RACES meeting is on Monday, November 4, 2013, at 7:30 PM, at OCSD Communications & Technology Division, 840 N. Eckhoff Street, Suite 104, in Orange. Our featured speaker is Bob McFadden, KK6CUS, who will provide very interesting information on the many amateur-radio apps available for smartphones (such as the iPhone and Android phones). If you don't have a smartphone now, you will certainly want to get one after you hear Bob's presentation!

## OCRACES Van Participates at Radio Rodeo

The County of Orange RACES emergency communications response vehicle was used as the communications command post at Radio Rodeo at the Angel's Stadium parking lot on Tuesday, October 8, 2013. This was the second Radio Rodeo conducted by the California Statewide Interoperability Executive Committee (CalSIEC) Southern Planning Area (SPA). Five counties participated, including Orange, Riverside, San Diego, Santa Barbara, and Ventura. Each county set up in a central location with individual agencies testing the equipment inside their various mobile communications vehicles. Participating at Angel's Stadium were the Anaheim Police Department, Anaheim RACES, Huntington Beach Police Department, Huntington Park Police Department, Los Angeles County Sheriff's Department, Orange County Animal Care, Orange County Emergency Medical Services, Orange County Public Works, Orange County Sheriff's Department (Samantha II, RACES Vehicle, Communications Field Support Trailer, OASIS Trailer, and Mobile Incident Command vehicle), Santa Ana Police Department, Tustin Police Department, and Cypress RACES. Setup began at 0600, the first radio test was conducted at 0900, and all testing was concluded by 1130. The morning concluded with an opportunity for any first-responder agency to view the vehicles and observe the resources in Orange County.

The event generated a small amount of media coverage from KCAL-TV Channel 9 and Global TV Network. Participating from the OCSD Communications & Technology Division were Oscar Bocanegra, RACES Chief Radio Officer Ken Bourne, W6HK, Senior Telecommunications Engineer Nick Conderas, David Corsiglia, WA6TWF, Nate Dellinger, KI6PWI, Alma Fely, Girish Gohil, Peter Jimenez, KI6UTE, Emergency Communications Manager Delia Kraft,

KF6UYW, Program Support Manager Denis Marin, K6OLU, Sam Maynard, KD6PHZ, RACES Member Sue Mickelson, KJ6LCJ, RACES Member Fran Needham, KJ6UJS, RACES Radio Officer Harvey Packard, KM6BV, Frank Raymundo, Mark Rettberg, KI6KYT, Telecommunications Engineer III Brad Russo, KB6GPM, Assistant Director Joe Saddler, WA6PAZ, Isabel Santos, Claude Sims, Director Robert Stoffel, KD6DAQ, and Shawn Vadpey, KI6LIJ.

From the RACES vehicle, Assistant Director Joe Saddler, WA6PAZ, conducted a roll call of other agencies on public-safety frequencies. Chief Radio Officer Ken Bourne, W6HK, communicated with Radio Officer Harvey Packard, KM6BV, in Samantha II, with the Anaheim RACES vehicle, and with the Cypress RACES vehicle, and, assisted by Sue Mickelson, KJ6LCJ, and Fran Needham, KJ6UJS, conducted a roll call of off-site RACES units at Riverside County, San Diego County, Santa Barbara County, and Ventura County, using the OCRA-CES 2-meter repeater, three of the UHF repeaters, and the Cactus Inter-tie linked UHF repeater system. Luna County (New Mexico) RACES also checked in via Cactus. We were unable to access the Riverside County and San Diego County repeaters for this test.



**Assistant Director Joe Saddler, WA6PAZ, calls other agencies on public-safety frequencies from the OCRACES van.**



**OCRACES members at Radio Rodeo included (left to right) Fran Needham, Capt. Ken Bourne, W6HK, Lt. Harvey Packard, KM6BV, and Sue Mickelson, KJ6LCJ.**

## Welcome to Ken Tucker, WF6F

OCRACES welcomes Ken Tucker, WF6F, as its newest member. He was originally licensed in 1983 as a Novice and upgraded to Extra a few years later. He enjoys chasing DX on CW. In fact, he hasn't had an SSB QSO for years. Between that and the never-ending tinkering, Ken says ham radio has proven to be a true friend over the years.

Ken says the biggest lesson ham radio has ever taught him was to not only be exceptionally kind to his neighbors, but to get them licensed! That "creates a lot more tie-down points for those big wire antennas stretching to your neighbor's yard." He hasn't had any such luck in Irvine, though. Ken's home station is a barefoot Kenwood TS-940S (with no mic) and open-wire feed from the tuner to a 35-foot push-up vertical on the upstairs deck. He says the seamless rain gutter around the house has turned out to be an excellent counterpoise. The last time he checked, he had 170 countries on CW in "Irvine stealth mode." The "attic resonates with far too many antennas—from a trapped HF dipole to gigahertz stuff, with everything else in between."

Ken is transitioning to retirement. "Having the time to do what I want to do when I want to do it makes me feel like a kid again. It's a shame that work keeps us from doing this a lot sooner."

Ken started out of school with IBM as a computer systems engineer. He liked it and went back to school for more of it. He ended up with several coupled but different careers—weapons systems engineering for aerospace (B2, et al), computer performance management and systems programming for some of the biggest mainframe shops in the country, and some traditional electrical engineering along the way.

Ken recently combined tinkering, ham radio, and EE stuff into a post-retirement gig as a marine electronics service engineer, fixing/installing/inspecting all of the bridge electronics and communications on the big commercial tanker, container, and cruise ships. He also became an FCC GMDSS radio inspector along the way.

Shipboard communications exists primarily for the safety of life at sea. While learning about the emergency communications preparedness for shipping, Ken also heard more about local RACES and noted that all of the USCG training and government net operations are just as applicable on shore. "So now that my feet are becoming 'dry', it's a great opportunity to serve on land using these same skills," says Ken.

Ken is looking forward to assisting Orange County RACES. "Now if I could only get my neighbors licensed!"



Ken Tucker, WF6F, in his well-equipped hamshack.

The last time he checked, he had 170 countries on CW in "Irvine stealth mode." The "attic resonates with far too many antennas—from a trapped HF dipole to gigahertz stuff, with everything else in between."

## OCRACES Shows Van at OCFA Open House

County of Orange RACES exhibited its emergency communications response vehicle at the Orange County Fire Authority Open House, held at OCFA's Regional Operations & Training facility in Irvine on Saturday, October 12, 2013. Fran Needham, KJ6UJS, drove the van to and from the event. Other OCRACES members working the event included John Bedford, KF6PRN, Chief Radio Officer Ken Bourne, W6HK, Sue Mickelson, KJ6LCJ, and Tom Tracey, KC6FIC, as well as Applicant Michael Butler, WØMTB. Many visitors toured the van throughout the day.

Conducting tours of the OCRACES van at the OCFA Open House are (left to right) Tom Tracey, KC6FIC, Sue Mickelson, KJ6LCJ, John Bedford, KF6PRN, Fran Needham, KJ6UJS, Applicant Michael Butler, WØMTB, and RACES Capt. Ken Bourne, W6HK.



## OCRACES Holds First Cooperative T-Hunt

Bob McFadden, KK6CUS, was the fox on the first cooperative T-hunt held by County of Orange RACES, on Monday, October 14, 2013, immediately following the OCRACES 2-meter net. Bob hid in the hills of Aliso Viejo, transmitting on the input (146.295 MHz) of the OCRACES repeater, using a 136.5 Hz PL to bring up the repeater, so that hunters would know he was transmitting if they were out of direct range of his signal. Ken Bourne, W6HK, with Carol, N6YL, was the only hunter on this first cooperative hunt, but more hunters are expected to join future hunts as they gear up for this activity. Ken used an Arrow Antenna Model 146-3 hand-held three-element portable yagi, which assembles in only a couple of minutes, and his new Icom IC-7100 transceiver. The transceiver's RF gain control and capability to tune slightly off frequency in any mode was ideal for direction finding.

Bob's "fox box" used a Raspberry Pi microcomputer, running the Raspbian operating system. Also included were a Prolific USB-to-serial adapter to connect the USB port on his Raspberry Pi to the DB9 port on a RIGblaster Nomic sound-card interface, connected to his transceiver. A 1/8-inch TRS phone plug cable connected the Raspberry Pi's audio output to the RIGblaster's audio input. A cable with an RJ45 connector interfaced the RIGblaster Nomic to Bob's transceiver. Bob says this cable can be purchased or built, depending on your transceiver. This application described by Bob only is concerned with transmitting audio and does not need received audio from the transceiver. Bob wrote a Python program for his Raspberry Pi to raise the DB9 serial port pins 4(DTR)+7(RTS) high, causing the RIGblaster Nomic to key up the transceiver. The program plays digital audio files out of the Raspberry Pi's audio output port through the RIGblaster Nomic to the transceiver. The RIGblaster Nomic provides an audio isolation transformer. The audio files consist of spoken words identifying the station, instructions to the hunters, 5 seconds of 440 Hz tone, and finally Morse code of the station call sign. The program also lowers the DTR-RTS pins to unkey the transceiver.

The following program runs automatically every minute (via the cron scheduler) and lasts approximately 15 seconds:

```
-----
Add python serial module
sudo apt-get install python-serial
-----

Python program and script

pi@rpipr ~$ cat bjaxmit5.sh
/usr/bin/python /home/pi/python/bjaxmit5.py

pi@rpipr ~$ cat bjaxmit5.py
import serial, time, subprocess

ser = serial.Serial('/dev/ttyUSB0')
time.sleep(1)

subprocess.call(['/usr/bin/aplay', '/home/pi/audio/kk6cus2.wav'])
subprocess.call(['/usr/bin/aplay', '/home/pi/audio/fox2.wav'])
subprocess.call(['/usr/bin/aplay', '/home/pi/audio/bj440-5.wav'])
subprocess.call(['/usr/bin/aplay', '/home/pi/audio/bjcall.wav'])
time.sleep(1)

ser.close()
-----

Add cron job
* * * * * /home/pi/python/bjaxmit5.sh > /dev/null
```



**Bob McFadden, KK6CUS, with his "fox box" on the back of his truck, hidden in the hills of Aliso Viejo.**

# RACES/MOU News from Around the County

**"RACES/MOU News" provides an opportunity to share information from all City & County RACES/ACS units and MOU organizations in Orange County.**

**Please send your news to NetControl Editor Ken Bourne, W6HK, at:**

**w6hk@ocraces.org**

## Anaheim RACES

Anaheim RACES is hosting a radio testing session on November 2, 2013, at 2:30 PM, at the Fire Training Center on Orangewood. They will be testing for new and upgraded licenses. For more information, contact Rich Lewis, AF6TM, at 714-345-9547 or richlewis04@aim.com.

## Newport Beach RACES

The Newport Beach Fire Department's Community Emergency Response Team (CERT) Program and its volunteers were honored on September 24, 2013, by the White House as a *Champion of Change* in the category of Community Resiliency and Preparedness. This prestigious White House award honors the Newport Beach CERT Program, its leadership, and its volunteers for their work in preparing the city's residents, schools, businesses, and visitors for natural and manmade emergencies and disasters. In 2012, the Newport Beach CERT Program and its volunteers won the Individual and Community Preparedness Award for Outstanding Community Emergency Response Team Initiatives from the Federal Emergency Management Agency (FEMA), and received Honorable Mention in the Volunteer Integration Category.

The Champions of Change Program was started in 2009 by President Obama, who believes that "The best ideas come from the American people...all across the country, ordinary Americans are doing extraordinary things in their communities to out-innovate, out-educate, and out-build the rest of the world, helping us win the future."

In 2011, the CERT Volunteer Board of Directors was formed to advise and help the city identify and develop training opportunities as well as marketing, community outreach, and radio communications. They also work on event planning and speaking engagements, and help manage administrative projects and the extensive volunteer pool. Efforts by the Board and by the 1,000 active CERT volunteers provide the city with a significant advantage in being able to main-

tain a robust and aggressive CERT program without burdening the city's financial resources.

One of the CERT Volunteer Board's key objectives is to see that everyone who lives, works, and plays in Newport Beach is focused on disaster response and preparedness. Newport Beach is vulnerable to annual flooding, sea-level rise, tsunami threats, earthquakes, wild fires, hazardous spills, and other potential disasters and emergencies that can strike any city. The CERT Program works toward ensuring that everyone is prepared when any of these catastrophes occur.

Major accomplishments included the development of self-funding preparedness projects in many of the city's 156 communities and neighborhoods, adding volunteer trainers for CPR, first aid, and radio communications, and the creation of "Centers of Excellence," which focus specific volunteer skills, such as medical, technology, communications, engineering, and project management, on unique problem-solving opportunities.



Both awards ceremonies were attended by the City's CERT Program Director (Matt Brisbois, KI6RBS, Fire Department Life Safety Specialist) and by the CERT Volunteer Board of Directors.

## Tri-Cities RACES

Tri-Cities RACES members, with assistance from other radio amateurs, participated in the San Onofre Nuclear Generating Station (SONGS) siren test on Wednesday, October 16, 2013, from 9:00 AM until about noon. Three separate net controls did a quick roll call for each siren test.

# November 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4 <b>OCRACES Meeting &amp; Weekly ACS Net</b>	5	6	7	8	9
10	11 <b>Weekly ACS Net &amp; Cooperative T-hunt</b>	12	13	14	15	16
17	18 <b>Weekly ACS Net</b>	19	20	21	22	23
24	25 <b>Weekly ACS Nets &amp; SWACS Radio Test</b>	26	27	28	29	30



## Mission Statement

*County of Orange RACES has made a commitment to provide all Public Safety departments in Orange County with the most efficient response possible to supplement emergency/disaster and routine Public Safety communications events and activities. We will provide the highest level of service using Amateur and Public Safety radio resources coupled with technology, teamwork, safety, and excellence. We will do so in an efficient, professional, and courteous manner, accepting accountability for all actions. We dedicate ourselves to working in partnership with the Public Safety community to professionally excel in the ability to provide emergency communications resources and services.*

## Upcoming Events:

- **Nov 4:** OCRACES Meeting, 1930, 840 N. Eckhoff Street, Suite 104, Orange; ham apps for smartphones, by Bob McFadden, KK6CUS
- **Nov 11:** OCRACES Cooperative T-hunt, 1920, input of 2-m repeater (146.295 MHz), bearings compared on 449.100 MHz repeater
- **Nov 25:** OCRACES 2-m, 70-cm, 6-m, 1½-m nets, 1900, 1920, 1930, 1940; Cal OES 75-m net, 2000; SWACS Frequency/Radio Test, 2015
- **Dec 2:** OCRACES Holiday Dinner, 1830, Katella Grill

## County of Orange RACES Frequencies

6 m: 52.620 MHz output, 52.120 MHz input, 103.5 Hz PL  
 2 m: 146.895 MHz output, 146.295 MHz input, 136.5 Hz PL\*  
 2 m: 147.480 MHz simplex  
 1.25 m: 223.760 MHz output, 222.160 MHz input, 110.9 Hz PL  
 70 cm: 446.000 MHz simplex  
 70 cm: 449.100 MHz output, 444.100 MHz input, 110.9 Hz PL (private)  
 70 cm: 449.180 MHz output, 444.180 MHz input, 107.2 Hz PL (private)  
 23 cm: 1287.650 MHz, 1287.675 MHz, 1287.700 MHz, 1287.725 MHz, 1287.750 MHz, and 1287.775 MHz outputs, –12 MHz inputs, 88.5 Hz PL  
 \*Primary Net—Mondays, 1900 hours

### RACES Program Manager

Delia Kraft, KF6UYW  
 714-704-7979

### Chief Radio Officer (Captain)

Ken Bourne, W6HK  
 714-997-0073

### Radio Officers (Lieutenants)

Scott Byington, KC6MMF  
 Harvey Packard, KM6BV  
 Ralph Sbragia, W6CSP

### Assistant Radio Officers (Sergeants)

Jack Barth, AB6VC  
 Jim Dorris, KC6RFC  
 Ernest Fierheller, KG6LXT

## County of Orange RACES

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Questions or Comments?

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**"W6ACS ...  
Serving  
Orange County"**

## Meet your County of Orange RACES Members!



Ken Bourne  
W6HK



Scott Byington  
KC6MMF



Harvey Packard  
KM6BV



Ralph Sbragia  
W6CSP



Delia Kraft  
KF6UYW



Marten Miller  
KF6ZLQ



Robert Stoffel  
KD6DAQ



Jack Barth  
AB6VC



Jim Dorris  
KC6RFC



Ernest Fierheller  
KG6LXT



John Bedford  
KF6PRN



Randy Benicky  
N6PRL



Bill Borg  
KG6PEX



Chuck Dolan  
KG6UJC



Nancee Graff  
N6ZRB



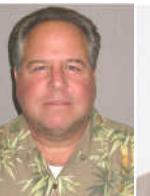
Ray Grimes  
N8RG



Walter Kroy  
KC6HAM



Martin La Rocque  
N6NTH



Brian Lettieri  
KI6VPF



Bob McFadden  
KK6CUS



Sue Mickelson  
KJ6LCJ



Fran Needham  
KI6UJS



Tom Riley  
K6TPR



John Roberts  
W6JOR



Joe Selikov  
KB6EID



Tom Tracey  
KC6FIC



Ken Tucker



Brian Turner  
KI6WZS