

April 2015



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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Captain's Corner

by RACES Captain Ken Bourne, W6HK, Chief Radio Officer

Hunters Find Interference!

As we often state in our T-hunt articles, the reason we hold cooperative T-hunts is to give us practice in working together to find interference quickly on not only amateur but also public-safety frequencies. Recently, our practice paid off!

OCSD Communications & Technology Division Director Robert Stoffel, KD6DAQ, a few days ago asked for RACES help in finding two sources of interference, one on a UHF Santiago Peak repeater used by ambulance and EMS services, and the other on a VHF high-band frequency (above the 2-meter ham band). I sent a notice to City and County RACES and MOU members who had been participating in our cooperative T-hunts about the two interference situations.

The VHF high-band signal was not as challenging as the UHF signal, and was located on Sunday, March 29, 2015, by Mission Viejo RACES members Richard Saunders, K6RBS, and Mike Slygh, NM6X. After noticing a very strong signal at my home in Orange on that frequency, with a rapid data-like pulse, I drove around on March 19th with just an HT and no direction-finding (DF) equipment. The signal dropped down considerably in west and north Orange, stayed weak as I drove toward Loma Ridge along Villa Park Road, and then picked up as I drove west over "Chapman Pass," south on Prospect, and west on Larkstone. I informed other hunters about my observations. Richard said his 2-meter yagi would not function properly on

VHF high-band, but that Mike had a log-periodic that seemed to pick up a signal toward Santiago Peak from Mission Viejo.

The next day, I dug up a VHF high-band yagi in my garage that I had built many years ago (as part of an OCRACES group project) for locating interference above the 2-meter ham band. Using that with my Icom IC-7100 was quite effective. The signal peaked up along the 55 Freeway between the 22 Freeway and the Irvine Boulevard exit. I then took bearings from Costa Mesa, the El Toro "Y" area (thinking about Mike's observation, but I detected nothing from Santiago Peak), the Tustin Market Place, downtown Tustin, and Loma Ridge. At some locations I got two bearings, triangulating toward the 55 and 17th Street, and toward North Tustin. I mentioned that to Richard.

On Saturday, Richard drove up the 55 Freeway with just an HT (no DF equipment) and found a peak about a mile north of where I spotted it the day before. On Sunday, he and Mike located the actual source. Richard called his friend at the FCC, who said they had also recently located it. It was a utility site that was exchanging sensor data with another site in the Tustin hills (which explained the two bearings I was getting the day before). It was allegedly an improper use of the frequency.

The UHF interference (short data burst) is heard through a repeater on Santiago Peak, but none of us have yet heard it direct on the input. It could be anywhere in the Los Angeles basin or in an adjacent county. Because the data burst is short (about 1 sec-

**The Next
OCRACES
Meeting Is**

**April 6, 2015
1930 Hours**

**840 N. Eckhoff Street,
Suite 104, Orange**

**Ethernet Cables
by Brad Russo,
KB6GPM**



Orange County Sheriff's Department
Communications & Technology Division

Captain's Corner *Continued from page 1*

ond), a Doppler system would probably be needed to find it, since there is not enough time to swing a beam or a loop for a bearing. There is also a possibility that the interference is from one or more moving vehicles.

OCRACES Sgt. Bob McFadden, KK6CUS, had already been alerted about the UHF problem, and drove from San Diego to Los Angeles, including along I-15, hoping to detect a signal on the repeater input, perhaps from Riverside County. No signal was heard, except through the repeater. Others (including myself) have tried to pick up the signal from home stations.

Once one of us picks up the UHF signal, we will deploy those who have UHF hunting equipment (preferably Doppler) to the suspected area to hunt it down. We are strongly encouraging our participants to install Doppler equipment and to cut antenna lengths to correspond to the frequency (well above 460 MHz). Meanwhile, we will begin holding some of our cooperative T-hunts on the input of our 449.100 MHz repeater, while comparing bearings on our 2-meter repeater. David Corsiglia,

WA6TWF, has offered to be the fox on UHF on either the June 8th or July 13th hunt. That will give us some good practice to locate interference to UHF public-safety systems. Reflections are worse on UHF than on 2 meters, so UHF hunts will be more challenging—but fun.

With the success that we recently had on locating the source of interference on VHF high-band (thanks especially to Richard and Mike) and the enjoyment that many of us are having on the second-Monday cooperative T-hunts, I strongly encourage those of you who have never hunted to get involved! It's not only enjoyable, but it's a valuable service that we can provide to County and City agencies who are experiencing interference. You can build loops and yagis cheaply from information found on the <http://www.homingin.com> Web site, or you can spend a few more bucks and purchase loops and portable yagis (made by Arrow Antenna, for example) from HRO. If you get really serious, put together a Doppler system or purchase one from Global TSCM Group, Inc. (<http://www.kn2c.us>).

Preparations Begin for Field Day

OCRACES will participate in Field Day again this year, on June 27-28, 2015, at Craig Regional Park in Fullerton. Our Field Day Coordinating Team consists of Kenan Reilly, KR6J, Sgt. Bob McFadden, KK6CUS, and Sgt. Jack Barth, AB6VC. Plans will be discussed at the next OCRACES meeting on Monday, April 6, 2015, at 7:30 PM, at 840 N. Eckhoff Street, Suite 104, in Orange. Fran Needham, KJ6UJS, has been listing several matters involving our van that need to be taken care of by Field Day, and we appreciate the work that Nick Condaras, Brad Russo, KB6GPM, and other OCSD Communications & Technology Division engineers and technicians are doing to get our van in good condition.

Farewell to Lt. Ralph Sbragia, W6CSP

Ralph Sbragia, W6CSP, has submitted his resignation as Radio Officer and member of County of Orange RACES. He has been a dedicated member for well over 20 years, and has always been eager to share his knowledge with OCRACES members. For many years he led our efforts at the Baker to Las Vegas Challenge Cup Relay, and at Field Day, involving a considerable amount of work. During activations, he performed admirably as a radio operator and as a leader, including contacting members of his North Squad to assess their availability. We wish Ralph the very best in his future pursuits, and thanks for a job well done.

Farewell to John Roberts, W6JOR

John Roberts, W6JOR, has submitted his resignation as a member of County of Orange RACES. Due to medical reasons, he feels he is no longer able to participate in accordance with the requirements of membership. John has been with OCRACES for many years, including years as an officer and T-hunter. He has considerable RF knowledge, especially in the configuration of antennas. For example, he put together a very effective HF off-center-fed dipole, which we have used during our Field Day operations. Unfortunately, an accident he had while working on antennas at his home led to some of the medical difficulties he is now facing. John is an excellent radio operator, and we hope he will continue to enjoy 160-meter operations from his home. Thanks to John for his many contributions to OCRACES.

Next OCRACES Meeting: April 6th

The next OCRACES Meeting is on Monday, April 6, 2015, at 7:30 PM, at 840 N. Eckhoff Street, Suite 104, in Orange. Our featured speaker will be OCSD Communications & Technology Division Telecommunications Engineer III Brad Russo, KB6GPM, with a fascinating presentation on Ethernet cables. Brad will also train us on how to install connectors on Ethernet cables, with hands-on practice. Kenan Riley, KR6J, will discuss Field Day plans at the meeting.

KG6NPC Hides in Irvine

OCSD Control One Supervisor Brenda Bartee, KG6NPC, was the fox on the monthly cooperative T-hunt on Monday, March 9, 2015. She hid on the patio of the Lazy Dog Café at the Tustin Market Place in Irvine, with her granddaughter Alexandra and with OCSD Emergency Communications Manager Delia Kraft, KR6AFT (formerly KF6UYW). A couple of the OCRACES hunters, Bob McFadden, KK6CUS, and Ken Bourne, W6HK, had a lucky hunch that Brenda would hide at the Tustin Market Place, and began the hunt in the large parking lot on the east side of Jamboree Road. They found the fox within minutes (Bob was first). Hunting with Ken was Fran Needham, KJ6UJS, who did an excellent job with the direction-finding loop. Next to arrive was Patrick Williams, KJ6PFW, from MESAC. Riding with Patrick were Bill Rose, KA6HMS, from Huntington Beach RACES, and Eric Bowen, W6RTR, from MESAC. This was Eric's first T-hunt, and he had a great time. Fourth place was Richard Saunders, K6RBS, from Mission Viejo RACES, using a tape-measure yagi. Next was Ron Allerdice, WA6CYY, from Costa Mesa. As we all gathered for goodies at the Lazy Dog, we noticed nearby APRS beaconing from Michael Berchtold, K6MKL (son of OCRACES Applicant Roger Berchtold, WB6HMY). Although he was only a couple of hundred feet away from us, Michael did not find the fox because his newly built tape-measure antenna exhibited an omnidirectional pattern! He mentioned that he had also been on the February 9th hunt in Orange, and experienced similar problems with his tape-measure antenna. We were happy to see Michael on the hunt, and will offer to help him get his DF equipment to work on 2 meters.



Brenda Bartee, KG6NPC, with the fox box. At left is Patrick Williams, KJ6PFW.

The next cooperative T-hunt will be held on Monday, April 13, 2015, immediately following the OCRACES net on the 146.895 MHz repeater. Dennis Brunning, KC6NVX, will be the fox, and will begin transmitting at approximately 7:20 PM on the input of the repeater (146.295 MHz). Hunters will compare bearings via the 449.100 MHz repeater, and are encouraged to beacon their positions via APRS throughout the hunt. Dennis will hide in Garden Grove.

David Corsiglia, WA6TWF, has offered to be the fox on a future hunt, possibly on the second Monday of June or July, but wants to transmit on the input of the 449.100 MHz repeater while we compare bearings via the 2-meter repeater. If that is to take place, we need to know if the majority of our hunters have 440-MHz direction-finding capabilities. We urge all hunters to get prepared for UHF hunting.

The cooperative T-hunts provide excellent practice in working together to find the source of interference. The hunts are not official RACES events, so DSW (Disaster Service Worker) coverage does not apply. Please drive carefully!

Fox-hunt loops and beams are available from Arrow Antenna and HRO. A 4-MHz offset attenuator, also available from Arrow Antenna and HRO, can be useful when close to the fox, to prevent receiver overload. An all-mode transceiver is quite useful, allowing hunters to switch to the SSB or CW mode for detecting extremely weak signals, or to switch in a built-in attenuator or tune slightly off frequency when dealing with extremely strong signals. Some hunters use the DF2020T radio direction finder kit, which is a Doppler system available from Global TSCM Group, Inc. (<http://www.kn2c.us>). Other useful tools are the Foxhunt app for iPhones and the Triangulate app for Android phones. For some good information on T-hunting, see <http://www.homingin.com>.



Around the fox's table at Lazy Dog are (left to right) Eric Bowen, W6RTR, Fran Needham, KJ6UJS, Brenda Bartee, KG6NPC, the fox, and her granddaughter Alexandra, Delia Kraft, KR6AFT, Ken Bourne, W6HK, Bill Rose, KA6HMS, and Bob McFadden, KK6CUS.

U.S. DHS Hosting Two-Day AUXCOMM Course

The U.S. Department of Homeland Security is hosting, at no charge, a two-day Auxiliary Communications class in San Marcos, on May 2 and 3, 2015. The same class is being held in Thousand Oaks on April 11 and 12, 2015. Each day the class runs from 8:00 AM to 6:00 PM. The class is directed toward amateur radio operators and their integration into emergency operations. The class is limited to 30 students. Five positions are allotted to Orange County in the San Marcos class, and are probably filled. Others wishing to attend may sign up on a waiting list. Prerequisites for this class are a current amateur radio license and ICS 100, 200, 700, and 800.

The Auxiliary Communications (AUXCOMM) course trains amateur radio operators to serve as auxiliary communicators during all-hazards emergency operations or planned events. Since 2011, the Department of Homeland Security Office of Emergency Communications (DHS OEC) has conducted AUXCOMM courses across the nation and trained more than 1,100 students in this course.

Description

This class is designed for those auxiliary emergency communicators and groups who volunteer to provide backup emergency radio communications support to public-safety agencies. Typically, this includes amateur radio and Radio Emergency Associated Communications Team (REACT) communicators, but may include other volunteer emergency communicators.

Volunteer emergency communications operators/groups, using amateur radio, have been providing backup communications to public safety for nearly 100 years. Event planners, public-safety officials, and emergency managers at all levels of government utilize their services. Often, amateur radio services have been used when other forms of communications have failed or have been disrupted. Today, nearly all the states/territories have incorporated some level of participation by amateur radio auxiliary communication operators into their TICPs and SCIPs.

This course focuses on auxiliary communications interoperability, the relationship between the COML and the volunteer, emergency operations center (EOC) etiquette, on-the-air etiquette, FCC rules and regulations, auxiliary communications training and planning, and emergency communications deployment. It is intended to supplement and standardize an operator's experience and knowledge of emergency amateur radio communications in a public-safety context.

Class Prerequisites

To attend this course, applicants must have the following prerequisites:

- ◆ An active amateur radio license
- ◆ Past experience in auxiliary emergency communications
- ◆ A desire to work with COMLs in a NIMS/ICS environment
- ◆ Completion of the following FEMA training courses:
 - ◇ IS-100.b, Introduction to the ICS
 - ◇ IS-200.b, ICS for Single Resources and Initial Incidents
 - ◇ IS-700.a, National Incident Management System (NIMS), an Introduction
 - ◇ IS-800.b, National Response Framework (NRF), an Introduction

Course Dates and Location

This AUXCOMM course is offered on May 2 and 3, 2015, at the San Marcos Regional Emergency Services Training Center at 184 Santar Place, in San Marcos. The same course is offered on April 11 and 12, 2015, at the East County Sheriff's Office, 2101 East Olsen Road, in Thousand Oaks. There is no charge for this training, and course materials will be provided by DHS/OEC. All travel/per diem costs are the responsibility of the individual student.

Registration

Applicants should submit a copy of their current FCC amateur license with scanned copies of all prerequisite Certificates of Completion for IS prerequisite courses to Arnie Lewin at w7bia@arrl.net for the San Marcos class, or to Dale Carnathan at Dale.Carnathan@ventura.org for the Thousand Oaks class.

Copies of prerequisite documentation which verify applicants have met the prerequisites and are eligible to participate in the course must be submitted and reviewed at least ten days prior to the course start date.

Registration is not complete until all documentation has been received and verified by Arnie Lewin for the San Marcos class or by Dale Carnathan (or John Hudson) for the Thousand Oaks class. Admittance is limited to the first 30 qualified applicants. Arnie or Dale (or John) will notify applicants they are registered as soon as the prerequisites are verified.

ARRL Seeks Member Input on Draft HF Plan

The ARRL is asking members to comment by April 19, 2015, on possible changes to the League's HF Band Plans suggested by the HF Band Planning Committee. The survey is part of the committee's efforts to tweak the band plans for the RTTY/data/CW portions of 80 through 10 meters—excepting 60 meters. The committee developed its suggested revisions to the voluntary band plans after reviewing some 400 member comments in response to a March 2014 solicitation that sought suggestions for using the spectrum more efficiently so that data modes may coexist compatibly.

“The committee concluded that most of the concerns voiced by members could be addressed by modest adjustments to the existing band plans, and mainly by confining data modes with bandwidths greater than 500 Hz to the FCC-designated segments for automatically controlled digital stations (ACDS) and to parts of the RTTY/data subbands above those segments,” ARRL CEO David Sumner, K1ZZ said. His article detailing the committee's suggestions will appear in the April edition of *QST*.

The proposed changes differentiate among ACDS, narrow RTTY/data modes having a bandwidth no greater than 500 Hz, and wider data modes having a bandwidth up to 2700 Hz.

The committee suggests several modifications to the 80 meter band plan. FCC action in 2006 reduced the 80 meter RTTY/data subband to 100 kHz and limited access to the 3600-3700 kHz segment to Amateur Extra class licensees. “Unless and until the FCC Rules are modified, changes in the band plan for 3500-3600 kHz will not improve the situation,” Sumner said.

The HF Band Planning Committee recommends that the League petition the FCC to move the boundary between the 80 meter RTTY/data band and the 75 meter phone/image band from 3600 to 3650 kHz and restoring that segment to General and Advanced class licensees. Members are asked to comment on this proposal, as well as on whether or not the ARRL should petition the FCC for these other changes:

- ◆ Shift the ACDS band segment from 3585-3600 to 3600-3615 kHz, consistent with the IARU Region 1 and 2 band plans.
- ◆ Extend the current Novice/Technician CW segment of 3525-3600 kHz to 3650 kHz.
- ◆ Add 80 meter RTTY/data privileges for Novices and Technicians.

On 40 meters, the committee concluded that it would be unrealistic to try to bring the ARRL band plan into alignment with the rest of the world, particularly with Regions 1 and 3 where operating patterns developed when the entire band, including phone, was just 100 kHz wide and is still only 200 kHz. While 7040 kHz is a recognized RTTY/data DX frequency in the band plan, the best place for other RTTY/data activity in the US is above 7070 kHz.

The committee proposes aligning the band plan with the “Considerate Operator's Frequency Guide,” with wide data modes—outside of ACDS—at 7115-7125 kHz. The “Guide” shows 7070-7125 kHz for RTTY/data, while the ARRL band plan shows 7080-7125 kHz. The FCC mandates that ACDS be confined to the 7100-7105 kHz segment.

On 30 meters, the committee recommends confining wide data modes to 10.140-10.150 MHz, separated from other RTTY/data at 10.130-10.140 MHz.

On 20 meters, the committee recommends using the 1 kHz IARU/NCDXF beacon network frequency (14.0995-14.1005 MHz) as a line in the sand between wide ACDS in the 14.1005-14.112 MHz segment, and narrow ACDS in the 14.095-14.0995 MHz segment.

The committee recommends 14.070-14.095 MHz for RTTY and narrowband data, noting that so-called “weak-signal” data modes often are used between 14.070 and 14.078 MHz.

On 17 meters, the committee recommends confining wide data modes to the FCC-mandated ACDS segment of 18.105-18.110 MHz, separated from narrow RTTY/data at 18.100-18.105 MHz. FCC rules do not permit RTTY/data above 18.110 MHz, limiting options for this band.

On 15 meters, the committee recommends that 21.070-21.090 MHz for narrow RTTY/data modes, the FCC-mandated ACDS segment of 21.090-21.100 MHz for both narrow and wide automatically controlled data station activity, and above 21.100 MHz for any additional wide data activity. The ARRL Board also wants members to comment on the desirability of adding RTTY/data privileges for Novices and Technicians in their existing 15 meter segment, where they're now limited to CW.

On 12 meters, the committee recommends confining wide data to the FCC-mandated ACDS segment, 24.925-24.930 MHz, separated from narrow RTTY/data operation at 24.920-24.925 MHz. FCC rules do not permit RTTY/data operation above 24.930 MHz, limiting options for this band.

On 10 meters, the committee recommends that wide data be confined to the FCC-mandated ACDS segment, 28.120-28.189 MHz, separated from narrow RTTY/data modes at 28.070-28.120 MHz.

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

Costa Mesa RACES (MESAC)

OCS D Emergency Communications Manager Delia Kraft, KR6AFT (formerly KF6UYW), gave an overview of OCRACES activities at the February 25, 2015 MESAC meeting, and offered a tour of the Orange County EOC and Sheriff's Communications Center, which will occur on a future Saturday. MESAC Chief Radio Officer Ted Bohrer, N7QY, wrote the following e-mail to Delia: "What a great overview you provided MESAC! It really helped the newer members, and I learned a few things myself. It was nice that Lt. Keith Davis was able to say hi to you also. MESAC runs under the Costa Mesa PD. And I want to thank you for making it on a one-day notice. That was very classy of you."

Fullerton RACES

Fullerton RACES Radio Officer Gene Thorpe, KB6CMO, is looking for amateur radio operators for the Donate LIFE 5K/1K Run/Walk Event on Saturday, April 25, 2015, at 0700-1100 hours, at Cal State Fullerton. You will need your HT with spare charged battery and earphone/headset, seat, and snack. There is a Family Festival after the Run to enjoy, plus food trucks for additional lunches. Contact Gene at kb6cmo@arrl.net with your name, call sign, e-mail address, and cell phone number.

Placentia RACES

An amateur radio class for obtaining a Technician Class license, sponsored by Placentia RACES in coordination with the Church of Jesus Christ of Latter Day Saints Emergency Response - Orange County, is being offered in Brea at the LDS Church (Room 114 and 115), 151 North Poplar Avenue. Session 1 on Friday, May 8, 2015, runs from 6:30 PM to 9:00 PM. Session 2 on Saturday, May 9th, runs from 8:30 AM to 1:30 PM. Session 3 on Saturday, May 16th, runs from 8:30 AM to 1:30 PM. The Test Session on May 23rd runs from 8:30 AM to 1:30 PM. There is no cost for the class, but a \$14 testing fee will be charged. Each student must obtain their own copy of Gordon West's *Technician Class License Manual 2014-2018*, available at Ham Radio Outlet (933 N. Euclid Street in Anaheim) or at <http://www.amazon.com>

(\$19.62). Students must register to attend by contacting Kevin Balmforth, N6ER, at n6er@yahoo.com, or Mark Garrett, KG6CAV, at Mark_L_Garrett@yahoo.com.

Orange County SKYWARN

NWS San Diego activated all SKYWARN, including Orange County SKYWARN, at 1030 hours on Monday, March 2, 2015. At 1020 hours, NWS showed a cluster of strong thunderstorms stretching from Oceanside to Huntington Beach. Storm weather spotters reported pea-size hail with these storms. At 1100 hours, NWS issued a flash flood warning for northeastern Orange County and western Riverside County, with heavy



Hail covered streets in Huntington Beach.

rain moving toward the burn scar in Silverado Canyon. OC SKYWARN staff monitored the Santiago Peak repeater at 448.040 MHz, as their Primary Tactical Repeater. NWS deactivated SKYWARN at 1330 hours.

County of Orange RACES

Congratulations to OCS D Emergency Communications Manager Delia Kraft, formerly KF6UYW, who now has the nice new call sign of KR6AFT.

Thanks to Sgt. Bob McFadden, Delia now is on the air from her office with Winlink (including HF Winlink) and has checked into the Saturday morning Orange County 40-meter ACS net on 7250 kHz USB.

A good friend to OCRACES, Joe Saddler, WA6PAZ, retired as OCS D Communications & Technology Division Assistant Director and Chief Radio Engineer on March 17, 2015. Another good friend, Denis Marin, K6OLU, the Division's Program Support Manager, retired at the end of March. We give both Joe and Denis our very best wishes for their retirement.

April 2015

Upcoming Events:

- **April 6:** OCRACES Meeting, 840 N. Eckhoff Street, Suite 104, Orange, 1930
- **April 9:** WebEOC Orientation, OC EOC, 1330-1530
- **April 13:** Cooperative T-Hunt, 1920
- **April 14:** EOC Planning and Intel Section Training, OC EOC, 1330-1530
- **April 22:** Introduction to SEMS, NIMS, & EOC Orientation, OC EOC, 1330-1530
- **April 27:** Southwest ACS Frequency/Radio Test, OC EOC, 2015
- **May 2:** City/County RACES & MOU Drill, 0900-1100
- **May 18:** City/County RACES & MOU Meeting, 840 N. Eckhoff Street, Suite 104, Orange
- **June 27-28:** Field Day

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4 <i>Weekly 40 m ACS Net</i>
5	6 <i>OCRACES Meeting & Weekly 2 m ACS Net</i>	7	8	9 <i>WebEOC Orientation</i>	10	11 <i>Weekly 40 m ACS Net</i>
12	13 <i>Weekly 2 m ACS Net & Cooperative T-Hunt</i>	14 <i>Planning and Intel Section Training</i>	15	16	17	18 <i>Weekly 40 m ACS Net</i>
19	20 <i>Weekly 2 m ACS Net</i>	21	22 <i>Introduction to SEMS, NIMS, EOC Orientation</i>	23	24	25 <i>Weekly 40 m ACS Net</i>
26	27 <i>All-Band ACS Nets & SWACS Radio Test</i>	28	29	30		



www.ocraces.org



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.

County of Orange RACES Frequencies

- 40 m: 7250 kHz SSB (City/County/MOU Net—Saturdays, 1000 hours)
- 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

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Assistant Radio Officers (Sergeants)
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 Ernest Fierheller, KG6LXT
 Bob McFadden, KK6CUS
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Questions or Comments?
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**“W6ACS ...
Serving
Orange County”**

Meet your County of Orange RACES Members!



Robert Stoffel
KD6DAQ



Delia Kraft
KF6UYW



Ken Bourne
W6HK



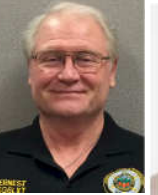
Scott Byington
KC6MMF



Harvey Packard
KM6BV



Jack Barth
AB6VC



Ernest Fierheller
KG6LXT



Bob McFadden
KK6CUS



Tom Tracey
KC6FIC



John Bedford
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Randy Benicky
N6PRL



Bill Borg
KG6PEX



Jim Dorris
KC6RFC



Nancee Graff
N6ZRB



Ray Grimes
N8RG



Walter Kroy
KC6HAM



Martin La Rocque
N6NTH



Fran Needham
KJ6UJS



Kenan Reilly
KR6J



Tom Riley
K6TPR



Joe Selikov
KB6EID



Ken Tucker
WF6F



Brian Turner
KI6WZS



Tom Wright
KJ6SPE



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