

November 2022



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OCRACES Meeting

In-Person at OC EOC, Loma Ridge

Monday, November 7, 2022, at 7:30 p.m.

Orange County Sheriff's Department
Emergency Management Division



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

County of Orange RACES *NetControl*

CRO's Nest *by Ken Bourne, W6HK, OCRACES Chief Radio Officer*

Keep On Keeping On

As most of you know, my beloved wife Carol, N6YL, passed away unexpectedly on September 5th, after I rushed her to the hospital early the morning of August 31st, our 59th wedding anniversary. The outpouring of love from my family, city and county RACES members, so many throughout the Orange County Sheriff's Department, my pastors and friends at St. John's Lutheran Church, and my neighbors has been overwhelming. Carol dedicated her life to loving and serving others. She loved the Sheriff's Department, and attended most OCRACES meetings, bringing cookies and brownies and sometimes even made baklava for our meetings. She was the love of my life, as well as the best friend, best cook, and best ham-radio companion a RACES guy could ever have. (We met on 6 meters 61 years ago, and our first date was to the EOC!) Thanks to all of you for helping me to struggle with my heart-breaking loss.

Because of my grieving, I was unable to produce an October issue of this newsletter, as well as to be involved in other RACES and Sheriff's activities. I continue to receive support from close friends, but now I must return to serving, as Carol would have wanted me to do. November looks like a good time for all of us to serve, with some major events looming. I plan to represent OCRACES at the next Orange County Citizen Corps Council meeting on the afternoon of November 2nd. That evening, I will join all RACES PSRs at the

mandatory PSR all-hands meeting at the Sheriff's Academy in Tustin. The next day, November 3rd, is The Southern California Radio Rodeo 2022 at The Honda Center in Anaheim, from 0800 to 1300 hours. The exercise will focus on law-enforcement and fire dispatchers and their interoperability tasks. No RACES or ACS scenarios will be tested, but RACES members may attend and observe.

Emergency Management Division Deputy Director Lee Kaser, KK6VIV, has exciting plans for increasing RACES activities. Mutual Aid Bureau Sergeant Kyle Sheek continues to advise us of the many upcoming events that we can support as PSRs. Be sure to check all emails from Lee and Kyle for opportunities to serve.

The next OCRACES meeting will be in-person on Monday, November 7th, at 1930 hours, at the Orange County EOC at Loma Ridge. Robert Stoffel, KD6DAQ, will give a PowerPoint presentation on the 800-MHz Countywide Coordinated Communications System (CCCS). All county and city RACES and EmComm members are invited to attend.

I have resumed running the weekly Saturday OCRACES 60-meter ACS net on 5371.5 kHz upper sideband (dial frequency) at 1000 hours. Not only do we observe propagation anomalies throughout the Southern California counties and into Southern Nevada, which could affect emergency communications coverage, but we also enjoy interesting technical discussions on various subjects, such as how to deal with local noise problems. ★

Next OCRACES Meeting: November 7, 2022

The next OCRACES meeting will be on Monday, November 7, 2022, at 7:30 p.m., at the Orange County Emergency Operations Center, 2644 Santiago Canyon Road, near Silverado (at Loma Ridge). OCRACES members and other PSRs and sworn Reserves planning to attend this meeting need to register on the Reserve Tracker Calendar. City RACES and EmComm members are also invited to attend

this meeting.

At this meeting, Robert Stoffel, KD6DAQ, will give an overall PowerPoint presentation about the 800-MHz County-wide Coordinated Communications System (CCCS), which is the trunked radio system shared between the County and its 34 cities.

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City/County ACS Exercise Held on October 1st

A City/County RACES & EmComm ACS Exercise was held on Saturday, October 1, 2022, from 0900 to 1200 hours. It was basically a field-deployment exercise focusing on alternative means of communications in case of repeater failures. These alternative means consisted of simplex communications on 2 meters FM and HF NVIS (Near Vertical Incidence Sky-wave) on 60 meters, Winlink, and AR-EDN mesh. Some county and city RACES and EmComm members operated portable stations at locations that needed to be tested for local and county-wide simplex radio coverage, while most participants remained at home. W6ACS net control was at the Orange County EOC at Loma Ridge. Steve Livingston, NJ6R, operated 2 meters, Randy Benicky, N6PRL, operated 60 meters, and Scott MacGillivray, KM6RTE, operated Winlink.

From 0900 to 0930 hours, city RACES and EmComm units called a roll of their members on their primary simplex frequencies, while OCRACES W6ACS net control (operated by Steve, NJ6R) called the roll of its members on the OCRACES primary simplex frequency of 146.595 MHz. From 0930 to 1000 hours, net control called the roll of the city RACES and EmComm units

on 146.595 MHz simplex. Each unit responded with the total number of participants from their members and any visitors checking into their net.

On the 2-meter OCRACES roll call from 0900 to 0930 hours, OCRACES members checking in included KD6DAQ, WF6F, W6HK, and KJ6UJS. N6PRL (60 meters net control), NJ6R (2 meters net control), and KM6RTE (Winlink) were operating in the RACES Room at Loma Ridge.

From 0930 to 1000, City RACES and EmComm units checking in on the OCRACES primary simplex frequency (146.595 MHz) with their results included: Anaheim (10), Brea (6), Costa Mesa (8), Cypress (3), Fountain Valley (5), Fullerton (4), Huntington Beach (2), Irvine (22), Laguna Niguel (8), Laguna Woods (6 + 1 visitor), Mission Viejo (7), Orange (12 + 1 visitor), Westminster (3), and Red Cross (1).

Beginning at 1000 hours on 60 meters, OCRACES W6ACS net control (operated by Randy, N6PRL) ran a net on 60 meters channel 4 (5371.5 kHz dial frequency, upper sideband), using the same roll call of county and city RACES and EmComm stations within Orange County as on the regular weekly Saturday morning OCRACES ACS net. Next, net control called for

additional RACES and EmComm stations in Orange County that are not on the regular Saturday roll call. Then Randy called RACES/ACS stations outside Orange County, and finally called non-EmComm stations on the regular Saturday list.

OCRACES stations participating on 60 meters included WF6F and W6HK, with N6PRL at W6ACS net control. NJ6R (2-meter net control) and KM6RTE (Winlink) were also at Loma Ridge. City RACES units checking in included Brea (K6UDW), Cypress (W6CYP), Laguna Niguel (N6JCN), Laguna Woods (K6EEE and NH7WG), Mission Viejo (W6EDT), and Orange (KG6MIG and K0VNJ). NI6E checked in for Newport Beach Repeater Club. W6GMU checked in for Cal OES from Cypress. ACS stations checking in from outside Orange County included W6CAW (Cal OES in Campo, San Diego County) and N6WIX (Ventura County ACS in Ventura). Participating non-EmComm stations included WD6AJR (Orange), AA6RF (Riverside), N2VAJ (Orange), and W6YLD (Santa Maria).

Winlink operations during the exercise are covered by Scott MacGillivray, KM6RTE, in his article on pages 4 and 5. ★

Configuring a Portable 10-GHz Receiver

Getting started on 10-GHz microwave amateur radio is not difficult. Here is an idea from San Bernardino Microwave Society member Doug Millar, K6JEY, for a portable, use-in-the-field receiver. He provides a link (<https://remoteqth.com/lnb.php>) to a low-noise block (LNB) conver-

sion with bias board that is inexpensive and very useful. The IF output is 432 MHz. (144 MHz is too low to use.) Doug's experience is that, with the TCXO, the stability is 50 Hz, which is good for general listening.

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PSR All-Hands Meeting: November 2nd

The next Mandatory PSR All-Hands Meeting is scheduled for Wednesday, November 2, 2022, at 1800 hours, at the Sheriff's Regional Training Academy Lecture Hall, 15991 Armstrong Avenue, in Tustin. This is a mandatory meeting for all PSRs (including RACES PSRs). Any PSR who is unavailable to attend

must receive an approved absence from Sgt. Kyle Sheek. He can be reached by email, phone, text, or in-person in the Mutual Aid Office.

This all-hands meeting should be different from prior meetings. A video will be shown that highlights what PSRs have been doing at different events. Prizes will be raffled off that

range from gift cards to tactical supplies.

The uniform for the event is the standard PSR uniform (black polo, black T-shirt, khaki pants, and black boots or shoes). No other PSR uniforms are authorized for this event.

Please register for this event on the Reserve Tracker Calendar. ★

Radio Rodeo 2022: November 3rd

The California Statewide Interoperability Executive Committee (CalSIEC) Southern Planning Area (SPA) will present The Southern California Radio Rodeo 2022 on Thursday, November 3, 2022, from 0800 to 1300 hours (setup at 0700-0800 hours), at The Honda Center in Anaheim.

Instead of the traditional roll call or a full-scale communications exercise, a hybrid communications exercise is being planned, to better prepare Southern California agencies for large-scale incidents such as fires, civil unrest, and the 2008 Olympics. Being planned are a day of challenging interoperability skills, education, time to test any communications equipment, and networking. Those unable to participate the entire day are invited to advise what they can do, and accommodations will be made. The exercise is not limited to agencies with mobile command posts. Anyone who attends with or without a handheld radio or com-

munications vehicle can be accommodated.

Those attending the event will include radio communications leadership, operators/dispatchers, technicians, interoperability planners, communications vehicles/mobile command posts (MCPs) and any IT/radio support members, police, fire, military, and tribal. The exercise will focus on law-enforcement and fire dispatchers and their interoperability tasks. RACES members may attend, but no RACES or ACS scenarios will be tested.

Thanks to the generosity of the California Public-Safety Radio Association (CPRA), which is the Southern California Chapter of the Association of Public-Safety Communications Officials, breakfast will be provided.

For further information, contact OCSD Supervising Communications Coordinator Gabe Armijo, KM6RPX, OCSD Emergency Communications Bureau, at GARMIO@ocsheriff.gov. ★

October 20th ShakeOut Drill Has 36 Check-ins

On Thursday, October 20, 2022, from 1000 to 1100 hours, OC-RACES conducted its annual Great California ShakeOut Drill, with 36 check-ins from OCRACES, city RACES, and EmComm members on the 146.895 MHz repeater. Participants reported observations of a simulated strong earthquake, which began in San Diego County and progressed up through the Santa Ana Mountains and then through the Chino Hills and Puente Hills. Observations were given as "Mike-Mike reports, using the Modified Mercalli Earthquake Intensity Scale. Three simulated major damage reports were also given. OC-

RACES Chief Radio Officer Ken Bourne, W6HK, was net control.

Participating organizations and members included Costa Mesa RACES (MESAC) (KM6UJD), Fountain Valley RACES (KK6OEX), Fullerton RACES (KB4GOD), Huntington Beach RACES (KE6BNS and KB6JOE), Irvine RACES (IDEC) (K6PB), Laguna Niguel ACS/OCHEART (KK6BML, KB6BXD, WB6CKG, KK6CUR, K0PGE, KI6SHD, KK6URR, and WB6VEM), Laguna Woods RACES (KN6CVB, K6EEE, AJ6VT, and NH7WG), Los Alamitos/Seal Beach RACES (KM6RSY), Mission Viejo RACES-

ARES (W6EDT and K6WHC), OCHEART (KE6MVS), Orange RACES (COAR) (KJ6IA, KF6WRM, and KK6YUP), Orange County RACES (KD6DAQ, KB6EID, WF6F, W6HK, N6PRL, NJ6R, and N8RG) Placentia RACES (KB6FTI), Red Cross (KG6WTQ), and Westminster RACES (N6HVC). N2VAJ in Orange also participated.

After an actual earthquake, observations should be given on the OC-RACES repeater, using the Modified Mercalli Earthquake Intensity Scale, which may be downloaded from the "Forms" page on the OCRACES website at <https://ocraces.org>. ★

Winlink in Orange County

by Scott MacGillivray, KM6RTE, KM6RTE@gmail.com

Results from Winlink Portion of the October 1st Countywide ACS Exercise

The goals for the Winlink portion of the Fall 2022 Countywide ACS Exercise were:

a) To provide Winlink operators the opportunity to gain experience and demonstrate operation of their Winlink stations by transmitting a message with an attached Check-In form.

b) To assess the level of Winlink usage across the county and identify current Winlink operators.

As described in the Winlink exercise portion of the countywide ACS exercise instructions, operators were to prepare a message with an attached Express Check-In form and send it to OCRACES tactical and member addresses. The Winlink exercise was open to all licensed amateur radio operators that have Winlink stations in Orange County, California, and not exclusive to just the city agencies.

In order to maximize the delivery options with the OCRACES Winlink RMS Gateways currently offline and the limited (but growing) number of gateways available in Orange County, the Winlink message could be sent using any communications mode, including Telnet (i.e., direct connection to internet).

A detailed compilation of the messages received by operator KM6RTE were recorded in a spreadsheet as they were being received during the event, as well as documented in the ICS-309 Communications Log automatically generated by Winlink Express. A summary of key information is provided in Table 1.

Table 1. Summary of Winlink activity during ACS exercise.

Parameter	Value	Details / Comments
Total number of messages sent and received during the 24-hour exercise.	51	Approximately 40 less messages than the May 2022 ACS exercise.
Messages received from unique Winlink accounts.	25	Many operators sent multiple messages from same Winlink account.
Types and number of communication modes used Based on self-reported information	Telnet (12) Packet/VHF (11) Unknown (2)	48.0% 44.0% 8.0%
Incomplete messages	Didn't include check-in form (2) No role in org provided (2)	
City / MOU organizations represented Some operators reported membership in multiple organizations	26 instances of membership identified 15 different organizations	Anaheim RACES (4) Mission Viejo RACES (3) COAR (3) Laguna Woods RACES (2) IDEC (2) OCRACES (2) Westminster (2) Laguna Niguel ACS (1) Fountain Valley RACES (1) Costa Mesa MESAC (1) Cypress RACES (1) American Red Cross (1) OCHEART (1) Brea RACES (1) Tri Cities RACES (1) Did not specify (1)

In summary, a total of 51 messages were sent and received, with messages sent from 25 unique callsigns. The majority of operators (48.0%, 12 operators) used telnet communications mode. The next most used communications mode was packet on VHF band (44.0%, 11 operators). With the large number of operators continuing to use telnet, it is still apparent that Orange County needs more operational Winlink RMS Gateways and/or more radio experienced Winlink operators.

Information was requested about the Winlink operator's role in their city or MOU organization that they were participating on behalf of. In total, 15 organizations were represented and the operators identified a total 26 instances of membership with these organizations. Refer to Table 1 for details on the organizations identified.

(Continued on page 5)

Winlink in Orange County *Continued from page 4*

In support of the first objective, the exercise demonstrated that the Winlink operators in Orange County can proficiently support ACS EmComm needs. 23 (92.0%) operators provided a fully compliant Express Check-In form. This is a significant improvement from May’s countywide ACS drill, which had only 42% fully compliant messages received, though more detailed information was requested as part of that previous drill. I guess operators are getting better at completing the Check-In form.

In support of the second objective, and based on ongoing correspondence with many Winlink operators in Orange County, it is suspected that the 25 participating operators represent only about 1/4 of the total currently active Winlink operators in Orange County. Future countywide exercises should focus on how best to inform Winlink operators of the exercise, as well as encourage greater participation.

Some observations:

a) Since the October 2021 ACS drill, there are three additional Winlink gateways around the county (NJ6R-10, W6HBR-10, and KM6RTE-12). With these new gateways, it was hoped that more operators would have taken advantage of them and sent messages via radio. However, the results show that it had minimal effect on the results. The number of users using telnet communications mode is holding steady at around 45%.

b) With the “Introduction to Winlink Express” classes offered in March and again in September of this year, there are approximately 55-60 additionally trained Winlink operators available across Orange County. It appears that this had minimal impact to the participation in the countywide drill. Nuts.

The constantly improving Winlink Express software has been adding more capability to handle the GPS location information included in its various forms, including the Check-In form. Figure 1 is one of the map display options showing the locations (“pins”) of the stations reporting their GPS locations included in the Check-In form. If an operator didn’t enter their exact location, the Winlink Express software defaults to the center of their grid location for the GPS location. This explains why there are fewer than the 23 stations shown, since several locations shown represent more than one station reporting. ★

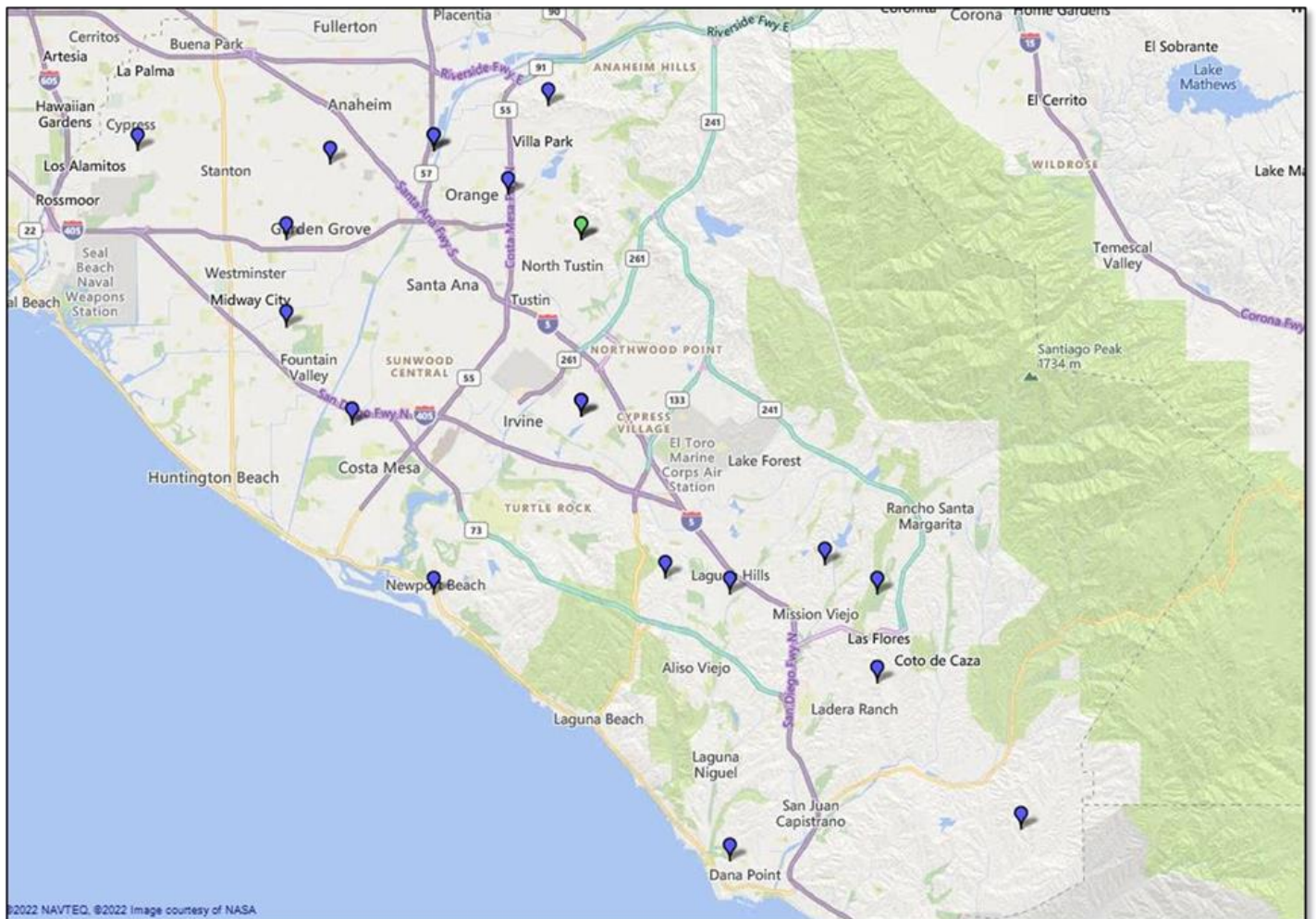


Figure 1. Automatically generated map showing locations of Winlink stations in Orange County that included GPS information in their Check-In forms.

Countywide RACES/EmComm News

Laguna Woods RACES

Laguna Woods RACES Chief Radio Officer Bruce Bonbright, NH7WG, had been checking into the weekly Saturday OCRACES ACS nets at 10:00 a.m., on 5372.5 kHz USB (dial frequency). He had been producing a good signal (usually S9 into Orange) for 4-5 years with his horizontal end-fed wire anten-



Hustler MO-1 mast with RM-60 60-meter resonator clamped horizontally to NH7WG's balcony railing, with a radial threaded in and out of the railing down to a ground wire. The railing itself could also be used as a counterpoise.

na. (A horizontal antenna is required for near vertical incidence skywave [NVIS] propagation, which is needed for regional coverage on 60 meters.) Unfortunately, HOA maintenance removed it. Bruce then replaced it with a vertical antenna on his second-story balcony with two radials threaded in and out of his balcony railing, but no ground radials. Bruce's signal was no longer detectable in Orange, but he could successfully work FT-8 on 20 through 12 meters, especially in the late afternoon, into Japan, Venezuela, Cuba, Brazil, and Hawaii, and most of the U.S.

Vertical antennas have a low angle of radiation, which is good for DX, but unusable for NVIS, which requires sending a signal almost straight up to refract off the ionosphere's F layer for local coverage in the lower part of HF spectrum, including 60 meters. A horizontal antenna, about $\frac{1}{8}$ wave-



Hustler RM-60 60-meter resonator screws into the end of an MO-1 54-inch mast. A rod extends from the other end, which adjusts for resonance.

length above ground, has a high angle of radiation (sometimes called a "cloud warmer"), and is ideal for NVIS, with typical coverage up to about 300 miles from the signal source. Bruce then decided to try an antenna setup similar to what Roy Shlemon, K6GVG, is using, which is a Hustler mobile antenna clamped horizontally to his second-floor iron balcony in Newport Beach. The balcony acts as a counterpoise for the Hustler antenna. Roy produces one of the strongest signals during the Saturday 60-meter nets. Bruce followed Roy's example with a Hustler MO-1 54-inch fold-over mast (but not folded) with an RM-60 60-meter (5 MHz) standard resonator, both available from HRO. He mounted the MO-1 on a Sirio M-1 90-degree stainless-steel bracket with $\frac{3}{8}$ " \times 24 to SO-239 adapter, available from Amazon, which he clamped onto the balcony railing. The railing is an effective counterpoise, but Bruce also threaded a radial in and out of the railing down to a ground wire. His signal now went from undetectable to almost S9 in Orange.

To duplicate Bruce's setup, either a Hustler MO-1, MO-2, or MO-3 mast could be used with the RM-60 resonator. Each of these masts is 54 inches. (By the way, without a resonator, these masts are a quarter wavelength on 6 meters.) The MO-1 folds over at 15 inches above the base, intended as a sedan hood, fender, or trunk mount vertical mobile antenna. The MO-2 folds over at 27 inches above the base, intended for bumper or hitch-level mount. The MO-3 has no fold-over, and is white vinyl covered, intended for marine applications.

A 60-meter Hustler horizontal dipole could be configured with two MO-1, MO-2, or MO-3 masts and two RM-60 resonators, joined with an MFJ-347 mini-dipole mount (also useful for making a Hamstick dipole).



Sirio M-1 90-degree bracket with $\frac{3}{8}$ " \times 24 to SO-239 adapter.

"RACES/EmComm News" provides an opportunity to share information from all City & County RACES/ACS units and EmComm organizations and supportive amateur radio clubs in and near Orange County, as well as from Cal OES and federal agencies.

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

kbourne.ocsd@earthlink.net

November 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2 All-Hands PSR Meeting	3 Radio Rodeo	4	5 Weekly 60 m ACS Net
6	7 Weekly 2 m ACS Net & OCRACES Meeting	8	9	10	11	12 Weekly 60 m ACS Net
13	14 Weekly 2 m ACS Net	15	16	17	18 Orange County Amateur Radio Club Meeting	19 Weekly 69 m ACS Net
20	21 Weekly 2 m ACS Net	22	23	24 Thanksgiving	25	26 Weekly 60 m ACS Net
27	28 ACS Nets on 4 Bands	29	30			

Upcoming Events:

- **November 2: 1800-2100 hours:** Mandatory All-Hands PSR Meeting, Sheriff's Regional Training Academy
- **November 3: 0800-1300 hours:** The Southern California Radio Rodeo, The Honda Center
- **November 7, 1930-2130 hours:** OCRACES meeting at OC EOC, Loma Ridge
- **November 18, 1900 hours:** Orange County Amateur Radio Club Meeting
- **November 24:** Thanksgiving



County of Orange RACES Frequencies

60 m: 5371.5 kHz USB (dial) (Channel 4) (OC ACS Net—Saturdays, 1000 hours)
 40 m: 7250 kHz LSB
 10 m: 29.640 MHz output, 29.540 MHz input, 107.2 Hz PL (down for repair)
 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: 146.595 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: 448.320 MHz output, 443.320 MHz input, 141.3 Hz PL (private)
 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)
 70 cm: 449.680 MHz output, 444.680 MHz input, 131.8 Hz PL (private)
 *Primary Net—Mondays, 1900 hours



<https://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.

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Visit Our Web Site
<https://ocraces.org>
It's Where It's @!

Questions or Comments?
 Contact *NetControl* Editor Ken Bourne, W6HK
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**“W6ACS ...
 Serving
 Orange County”**

Meet Your County of Orange RACES Members!

Officers →



Ken Bourne W6HK Scott Byington KC6MMF Jack Barth AB6VC Ernest Fierheller KG6LXT

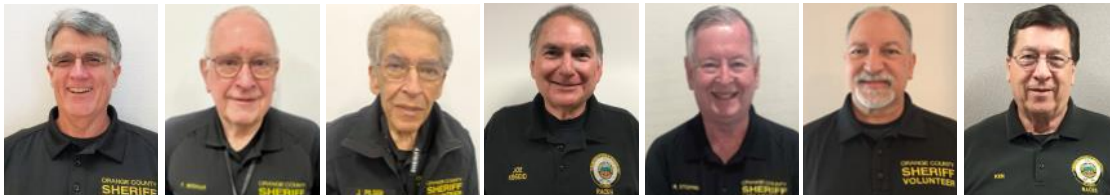
**OCSD
 RACES
 Coordinator** →



Lee Kaser
 KK6VIV



Heide Aguire K3TOG Randy Benicky N6PRL Eric Bowen W6RTR Ray Grimes N8RG Peter Jimenez KI6UTE Walter Kroy KC6HAM Martin La Rocque N6NTH Steve Livingston NJ6R



Scott MacGillivray KM6RTE Fran Needham KJ6UJS John Pilger K6PIO Joe Selikov KB6EID Robert Stoffel KD6DAQ Chuck Streitz KK6HFS Ken Tucker WF6F