

September 2021



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

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OCRACES Online Meeting on Microsoft Teams:

Monday, September 13, 2021, at 7:30 PM

RF Interference with Medical Devices

I just saw an article posted by the ARRL about a radio amateur in Orlando, Florida, who was told to remove his antenna by the management of his subdivision, following a complaint by a neighbor. The complaint was not about the antenna's appearance but, rather, about the neighbor's belief that her insulin pump had malfunctioned due to the radio amateur's operations a few doors down. Obviously, an insulin pump is not a radio device and should not be acting like one, detecting any form of radio energy on any frequency.

Medical devices such as insulin pumps are regulated by the U.S. Food & Drug Administration (FDA) specifically for electromagnetic compatibility (EMC) purposes and are expected to be capable of operating in all the RF environments likely to be encountered by consumers. FDA published guidance for its staff and industry defines EMC with respect to electrically powered medical devices "as the ability of a device to function safely and effectively in its intended electromagnetic environment, including immunity to electromagnetic disturbance (interference)." FDA review of EMC information submitted with a device for approval "is based on the risk associated with EMC malfunction or degradation of the device under review, as well as the use of appropriate FDA-recognized standards or appropriate consensus standards."

Reports have increased that medical devices, such as pacemakers, apnea monitors, electrically powered wheelchairs, etc., have failed to operate correctly because of interference from various emitters of radio-

frequency energy. The consequences of these failures range from inconvenience to serious injuries and death. This problem is due to increasing numbers of electronically controlled medical devices with inadequate electronic protection against radiofrequency interference (RFI), and a significant increase in the number of RF sources in the environment. Medical devices are widely used outside the hospital and may be attached to, or implanted in, patients. Portable wireless communications equipment, including cellular phones and handheld and mobile transceivers, comprise one of the largest sources of RFI. Some medical devices are especially sensitive to digital transmissions. The prevailing international standard for the RF immunity of medical devices is the International Electrotechnical Commission (IEC) Standard IEC 60601-1-2. This standard sets a minimum immunity level of 3 volts per meter (V/m) in the 26-1000 MHz frequency range. For non-life supporting devices, testing is required only at the specific frequencies of 27.12, 40.68, and 915 MHz. Technology exists to protect, or "harden," most medical devices from RF fields that are much more intense than the 3 V/m level specified in present RFI standards.

Although transmissions from amateur radio stations should not interfere with properly designed medical devices, we need to have compassion for our neighbors and work with them until they are able to replace their devices with "hardened" equipment. After all, we don't want them to die because their poorly designed devices are susceptible to our legal transmissions.

Fire Patrol Training at Sept 13 OCRACES Meeting

Our next OCRACES meeting will be on Monday, September 13, 2021, at 7:30 PM. Joe Selikov, KB6EID, will host this online meeting on Microsoft Teams. You can download Teams here for your [desktop](#) and for your [mobile](#). A meeting link will be emailed to the ocsd-races Groups.io list and to OCRACES applicants. Members of city, county, and state RACES and EmComm units are invited to attend this meeting.

At this meeting, Orange County Fire Watch Manager Tony Pointer will give us our annual Severe Fire Weather Patrol training. This is a 90-minute presentation with lots of valuable information about fire conditions and procedures for spotting and reporting wildfires.

City/County RACES ACS Exercise: October 2nd

The next City/County RACES & EmComm ACS Exercise will be on Saturday, October 2, 2021, from 0900 to 1130 hours (30 minutes longer than previous drills). As we continue to take precautions during the COVID-19 pandemic, we will limit indoor activities during the exercise and focus once again on portable operations, especially testing simplex operations from throughout Orange County. We are also adding two modes to this exercise—Winlink and AREDN (Amateur Radio Emergency Data Network using mesh nodes). The three OCRACES Winlink RMS sites remain inoperable, but there are alternatives. We don't have a mesh node at Loma Ridge, but the existing AREDN network is available at various locations. We plan to release the plan to all county and city RACES and EmComm units via the ocsd-races.groups.io list, about two weeks prior to the exercise. Some of the following information is tentative and will be finalized in the distributed exercise plan.

The voice communications portion of the exercise will simulate repeater failure and will be conducted only on 2 meters simplex and 60 meters. Most stations (except net control) will operate portable. Net control will be at the Orange County EOC on Loma Ridge. During the first 30 minutes of the exercise, from 0900 to 0930 hours, OCRACES will call only its own members, on 146.595 MHz simplex, and each city RACES and MOU or other EmComm unit will call its members on their primary simplex frequency. From 0930 to 1030 hours, OCRACES net control will call the roll of City RACES and EmComm units on 146.595 MHz simplex. The designated member of each unit will respond, with a report of the number of stations that checked in on the unit's primary simplex frequency. After the roll call, net control will stand by for any other radio amateurs who wish to participate. From 1000 to 1130 hours, OCRACES net control will call the roll of County and City RACES and EmComm units, as well as out-of-county units, on 5371.5 kHz upper sideband ("channel 4" dial frequency) on 60 meters. Net control will also stand by for any visitors who wish to participate.

The Winlink portion of the exercise is open to all licensed radio amateurs, whether or not they are members of County or City RACES or other EmComm units. It will emphasize the accuracy and throughput of digital communications to handle large volumes of traffic during emergencies. Participants will use Winlink Express software, which is a free download from <https://winlink.org>. Communications may be via a Winlink RMS (Radio Message Server) gateway by RF or via telnet (direct internet connection). Messages will be transmitted with an attached check-in form, using a template built into Winlink Express under "Standard Templates," then "GENERAL Forms," then "Winlink Check In.txt." Detailed instructions for creating a message with the Check In form, as well as sending it, will be provided in a separate document sent with the exercise plan.

Acceptance of messages will be extended beyond the 2½-hour exercise period, from 1500 hours on October 1st to 1500 hours on October 2nd. Participants are encouraged to operate portable, but may operate from any location, including home or city EOC.

The AREDN portion of the exercise will determine which County and City RACES units and EmComm organizations can pass traffic or establish VoIP phone calls using the Orange County AREDN network. It will also determine which of these units and organizations can monitor and capture images from a camera on the OC AREDN network. The exercise will also determine which RACES units and EmComm organizations can send a Winlink message with an attachment, using the OC AREDN network as the Winlink telnet transport layer. The exercise will be a good speed comparison of sending a Winlink message over RF and over AREDN. The AREDN portion is open to all licensed radio amateurs that have access to the Orange County AREDN network. To participate in the VoIP objective, the participant must also have a VoIP phone attached to their node or use a smartphone app such as Lincphone. To participate in the Winlink objective, the participant must also have Winlink Express preinstalled on their computer. Net control for the AREDN portion of the exercise will be from an AREDN mesh node, either at Loma Ridge (currently not confirmed if available), at a deployed location, or at the home QTH of one of the RACES personnel. Participants representing a County or City RACES unit or EmComm organization may operate from their organization's operating location such as an EOC or Radio Room, or they can operate from a deployed location or their home QTH. Other participants can operate from any location where they can access the OC AREDN network. Access can be via RF or an internet tunnel.

VHF High Band Channels in Orange County

by Robert Stoffel, KD6DAQ

As RACES members, we are sometimes called upon to operate on public-safety radio channels, either from the Loma Ridge EOC, or in the field with the Control 7 communications response vehicle. In this continuing series, I am sharing information about these radio systems and channels, providing our members with a better understanding on what they are and how they are used here in Orange County.

This month, we take a look at VHF High Band, and the channels that RACES members may be asked to monitor or transmit on. Orange County operates a number of VHF High Band channels for interoperable communications with agencies that use VHF High Band as their primary radio system. This includes local departments in Southern California, along with State and Federal agencies. The VHF High Band is also the default radio band used by the Fire Service for wildland incidents.

In this band we have two types of channels, simplex and repeated. First, let's take a look at the simplex channels. I group these into two categories, those that have a base station and those that are truly mobile and portable only.

Simplex Law Enforcement channels with base stations are known as CALAW1 (pronounced "C-A-Law-One") and VLAW31 (pronounced "Vee-Law-Thirty-One"). CALAW1 is a California statewide channel, and VLAW31 is a nationwide channel. Orange County operates a simplex base station on each channel, monitored by Control One. We also have one simplex Fire channel with base stations known as VFIRE21 (pronounced "Vee-Fire-Twenty-One"), a statewide channel. VFIRE21 is used for sharing information between Fire dispatch centers, as well as providing out-of-the-area Fire units the ability to make radio contact with a local Fire dispatch center. All Fire dispatch centers in Orange County and Control One monitor this channel.

Several simplex VHF High Band channels are available for tactical use, but do not have Orange County base station infrastructure in place. CALCORD (pronounced "Cal-Cord") is a statewide channel used for on scene coordination, available for use by any public-safety agency. Five simplex channels are used to support wildland Fire incidents, named VFIRE22 through VFIRE26. Four simplex channels available to any public-safety discipline, named VTAC11 (pronounced "Vee-Tac-Eleven") through VTAC14, are used locally to support wildland Fire incidents. Other simplex channels include VLAW32 and CALAW2 (for use by Law Enforcement), and VSAR16 (for use on Search and Rescue incidents). RACES members may be asked to monitor these simplex channels in the field, perhaps from the Control 7 communications response vehicle.

Orange County operates two simulcast and repeated VHF High Band systems for interoperable communications. OCACCESS-V (pronounced "O-C-Access-Vee") is available to any discipline for interoperable communications. It is also used for transmitting Orange County Alert & Warning messages and is a part of the County's Operational Area Radio System. FIRE OC (pronounced "Fire-O-C") is used exclusively by the Fire Service for interoperable communications during fire incidents.



Multiple radios, including VHF High Band, are found in all Fire Service Battalion Chief units; this photo of Laguna Battalion One.



FIRE OC appears in all Fire Department VHF High Band vehicle and portable radios throughout Southern California.

Control One is able to electronically connect the OCACCESS-V, FIRE OC, CALAW1, and VLAW31 radio channels to any conventional radio channel or 800 MHz Countywide Coordinated Communications System (CCCS) talkgroup, allowing for communications between users of these channels and the 800 MHz CCCS. The electronic connecting of channels is referred to as "a patch." While RACES personnel would not be tasked with implementing the patch, we may be asked to monitor these radio channels for a specific situation or incident being supported by the EOC or in the field with Control 7.

Orange County maintains one base station on the repeated California Emergency Services Radio System, or CESRS (pronounced "Caesars"). This channel provides an alternate way to communicate with the State's Southern Region EOC based in Los Alamitos, in case normal methods of communication are severed.

Finally, Orange County Fire Service, Lifeguard, and Marine Safety agencies are authorized to operate on specific VHF Marine Radio channels in an emergency. Transmissions are limited to emergency communications between first responders, the Coast Guard, and other Marine Radio users. The authorization is for Channel 6 (intership safety), Channel 12 (port operations), Channel 16 (distress, safety, and calling), Channel 21A (Coast Guard tactical), Channel 22A (Coast Guard tactical), Channel 23A (Coast Guard tactical), Channel 81A (Coast Guard tactical), and Channel 83A (Coast Guard tactical). These simplex channels are programmed into the Control 7 communications response vehicle, and RACES members may be asked to monitor these channels during an ocean-based emergency incident.

This completes our look at the VHF High Band channels; next month we will continue our journey by taking a look at the UHF Band.

Welcome Aboard: Heide Aguirre, K3TOG

We welcome Heide Aguirre, K3TOG, as a new OCRACES member as of August 18, 2021. Heide was already a PSR when she applied, and has recently retired from the county after 30 years as a Communications Technician with the OCSD Technology Division.

Heide started in electronics in 1977 through an ROP (Regional Occupation Program) class. She said it was so much fun that when she joined the Army she became an electronics technician. Her MOS (Military Occupational Strategy) was a ground control approach radar repairman. She fixed all the navigational aids on the airfield used by the pilots, and the consoles and radios used by air traffic controllers. She said it was a fairly easy job. “However, when things broke, they broke all at once, usually during poor weather. Heide earned her associates degree in electronics in 1987 and soon worked at Tektronix. She loved Tektronix because of the multiple variety of circuits to work on with a variety of test equipment. Her next job was at the County of Orange General Services Agency/ Communications (which was transferred into the Sheriff’s Department in October 1996). There was a lot to learn in public-safety radio, including repair and programming of radios. She said her co-workers were extremely talented and fun. She loved helping all first responders. Heide specialized in hand-held radios and programming conventional and trunked radios.

Heide’s interest in ham radio started in 1988. She has an Amateur Extra Class license. She hung out on the Super System (then owned by former OCRACES member David Corsiglia, WA6TWF) and talked with her friends. Now she is operational on the OCRACES repeaters and will enjoy the friendship of fellow RACES members.



Heide Aguirre, K3TOG.

Welcome Aboard: Eric Bowen, W6RTR

Welcome to Eric Bowen, W6RTR, who became a County of Orange RACES member on Friday, August 6, 2021. Eric is also a new OCSD Professional Services Responder (PSR).

Eric is the son of a retired Los Angeles County Deputy Sheriff and a retired University Administrator. In 2007, he received his Amateur Radio Technician Class license. He became a member of the City of Costa Mesa RACES (MESAC) in 2014. In his six of seven years with MESAC, he served as an officer on their Board of Directors, spending one year each as the VP of Administration and VP of Logistics, with the other four years as the VP of Operations (Radio Officer).

EmComm is his favorite aspect of amateur radio, but he also enjoys working with Yaesu System Fusion, DMR, AllStar, AREDN mesh, Winlink, and APRS. He has a DMR hotspot, Allstar node, portable Winlink station, and portable APRS iGate. He also owns and has set up a number of AREDN nodes, along with video cameras, a PBX phone system, email, chat, web and database services, and several other services.



Eric Bowen, W6RTR.

Welcome Aboard: Scott MacGillivray, KM6RTE

We welcome Scott MacGillivray, KM6RTE, as a new OCSD PSR and OCRACES member (as of August 6, 2021). Scott comes to OCRACES after retiring from a career in the Aerospace and Software Development industries. Before retiring, Scott co-founded and was President of Tyvak Nano-Satellites Systems in Irvine. The company designed, tested, and operated on-orbit very small satellites that typically range from 20 to 2 pounds, or less. Tyvak was extremely successful and Scott left the company to retire in 2014 after an outside investor took over. Prior to Tyvak, Scott worked at Boeing Phantom Works in Huntington Beach for 20 years until 2011, where he was a Manager leading the creation of the nano-satellite product area for the company. His educational background includes an undergraduate degree from Cal Poly San Luis Obispo in Aero Engineering, a graduate degree in Aerospace Engineering from University of Arizona, a graduate degree in Business Management from Pepperdine University, as well as several UCI and UCLA certificate programs that include Advance Project Management and Software Development. Scott is relatively new to Amateur Radio, getting his Technician and General licenses in 2018. Since then, he has focused on using his “ham time” for emergency communications by supporting activities with the city of Orange RACES (i.e., COAR), OCHEART, and OC Parks Fire Watch. His latest efforts have been in growing his knowledge of Winlink, as well as sharing this with others. This includes providing online Winlink training classes, countywide Winlink Peer-to-Peer exercises, and establishing a dual-band Winlink RMS gateway located in Panorama Heights. Scott is currently building a fully portable Winlink RMS Trimode (HF, VHF/UHF, and mesh) gateway.



Scott MacGillivray, KM6RTE.

Welcome Aboard: John Pilger, K6PIO

Welcome to John Pilger, K6PIO, who became an OCRACES member on August 29, 2021. His call sign is appropriate, considering his background as a public information officer. That began after high school, when he became a police-beat photographer for the Long Beach Independent and the Press Telegram.

John joined the Army in 1968 and was sent to Ft Hood, Texas, where he joined the Public Information Office and eventually became the personal photographer to Major General John K. Boles, the commanding general of the First Armored Division. After another year he was transferred to Germany where Mert Proctor, the Editor-in-Chief of *The Stars & Stripes*, assigned him to the newspaper's main editorial offices in Darmstadt. John covered American cavalrymen patrolling the border. He also covered the two Canadian combined bases near Baden Baden. He flew to Canada to interview Leo Cadieux, Canada's Minister of National Defense. Then John was named Nuremberg News Bureau Chief. He interviewed Neil Armstrong while he flew gliders at an international competition at Wasserkuppe, Germany. He broke a story that eventually brought Mike Wallace to meet with him to get the background so the story could run as a "60 Minutes" show segment.

After getting his Honorable Discharge, John became a medic on board one of Marin County's emergency ambulances. On his off days, he worked as a photographer for the United Press International San Francisco office.

Next was a one-year stay in Sierra Vista, Arizona, as a broadcaster on KTAN radio and Cable Channel 6, a local-access channel. He hosted three public-affairs TV shows each week, while he was also the radio station's Deputy News Director. John also oversaw Heart's basic life support and CPR training and the advanced life support program. He also became a certified paramedic.

His next stop was to Baltimore where he became the National News Manager for Metro Networks. He then opened operations in Dallas, Houston, Minneapolis, Atlanta, and Denver. He became the General Manager of Bay Area Traffic Watch, covering San Francisco and San Jose, California, and opened up new operations in Tampa and Orland, Florida.

Five years later John became a Federal Public Affairs Officer. He was the spokesperson for the Santa Clara Valley Transportation Authority and FEMA, which sent him to Guam following Super Typhoon Paka's hit on the island and islands in Micronesia.

John's last 12 years before retirement were as the Communications Officer for the City of Sunnyvale, California, where he trained government staff in the fundamentals of being a Public Information Officer. He also conducted training for the Municipal Manager's Association of northern California.

As a licensed ham, KD6IDY, John grabbed the obvious—for him—call sign K6PIO.

John retired in 2012. Within a year he was an active member of the Maricopa County Sheriff's Communications Posse. He spent three years in command as they searched the desert and the mountains for lost or injured souls. Tiring of conducting searches in heat as high as 122 degrees, John and his wife moved back home to their roots in and near Long Beach communities. They moved into Laguna Woods, and John joined Laguna Woods RACES and also became active in OCRACES since he is the Laguna Woods liaison to OCRACES. John is the Deputy Radio Officer for Laguna Woods RACES and is looking forward to a close partnership between the two RACES units.



John Pilger, K6PIO.

Welcome Aboard: Chuck Streitz, KK6HFS

We welcome Chuck Streitz, KK6HFS, who recently became an OCSD Professional Services Responder (PSR) and is now an OCRACES member as of August 27, 2021. He recently retired from a 35-year career in aerospace working at Lockheed, Garrett Corp., and the final 30 years at McDonnell Douglas/Boeing. Although his major at the university was Mechanical Engineering, the vast majority of his professional career for the last 25 years was in the Contracts/Legal departments, primarily responsible for drafting, negotiating, and executing aircraft purchase contracts and intellectual property licensing agreements. His travels took him all over the world, but mostly the Asia/Pacific region.

Chuck obtained his General License in October 2013, but he didn't really participate much with ham radio for most of the first six years after getting the license, other than occasionally making contacts via various local repeaters. However, after his retirement a few years ago, he renewed his interest in ham radio. He especially wanted to participate in some form of community service related to ham radio and gain some experience in ham radio operations. He discovered the OCRACES opportunity and now is a member.

Chuck's other interests include general aviation (he has some private pilot experience but is not current) and firearms (target pistol and trap). He holds a Federal Firearms License (FFL) 03 Collectors as well. His ham radio equipment for now consists of a Yaesu FT-991A HF/VHF/UHF base/mobile radio and a Kenwood TH-F6 tri-band HT.

Chuck looks forward to participating and learning with the OCRACES team!



Chuck Streitz, KK6HFS.

Countywide RACES/EmComm News

"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 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

Costa Mesa RACES (MESAC)

Ashley Fisher, KM6UJD, is now the MESAC Radio Officer. Patrick Williams, KJ6PFW, is the Chief Radio Officer.

Cypress RACES

The Cypress RACES website is <https://www.cypressca.org/departments/police/community-relations/races>.

Fullerton RACES

Kristi Hofstetter Batiste, Fullerton Fire Department, Emergency Manager, is now the City's RACES Program Coordinator.

Westminster RACES

Sgt. Anil Adam, Westminster Police Department, is now the city's RACES Coordinator.

Winlink Exercise (non-RACES)

Based on the very successful exercises held in March and June, Scott MacGillivray, KM6RTE, has planned another non-RACES Winlink Peer-to-Peer (P2P) exercise for the morning of Saturday, September 11, 2021. The purpose of this exercise is to allow Winlink operators throughout Orange County to have temporary RF access to a local Winlink station in order to test their Winlink computer and radio settings, as well as gain experience using Winlink.

For this exercise, Winlink Relay Stations will be operated at Seaview Park in Laguna Niguel (for South OC coverage), and a station in Orange (for Central and North OC coverage). The attached instruction documents provide the information needed to participate in the exercise.

This is an informal exercise (organized by Scott) and not associated with any organization. Specifically, it is not an OCRACES or OCSO exercise, and DSW or liability coverage is not provided. Your participation is solely for your own personal benefit, and the exercise is not to conflict with any official city or county government activities.

To ensure receiving any updates or changes, please notify Scott that you will be participating (with your name, call sign, and planned operating location) by sending an email to KM6RTE@gmail.com

Orange County Fire Watch

An interesting article by Mark Rightmire about Orange County Fire Watch appeared in the August 19, 2021, edition of the *Orange County Register*. Although the article did not mention amateur radio, it was still good publicity for the vital service provided by the 326 Fire Watch volunteers, many of whom report via amateur radio. The following information is taken from the article.

Fire Watch Manager Tony Pointer and several volunteers gathered at the Pacific Ridge Trailhead of the Laguna Coast Wilderness Park in Newport Beach on August 17th to demonstrate how they help protect and educate the public during Red Flag Warning days in Orange County wildlands.

"We have 36 locations in Orange County that volunteers would go to, typically at wilderness and regional parks that have a lot of vegetation that is receptive to burning," Pointer said, adding they cover "from Caspers Regional Park to Carbon Canyon up in Brea and all the way to locations in Santiago Canyon on the east side of the county."

Orange resident and new OCRACES member Scott MacGillivray, KM6RTE, has been a Fire Watch volunteer for the past year-and-a-half. "A couple of years ago, during the Santiago Canyon fire and Santiago Canyon 2 fires, I had to evacuate," Scott said. "So basically after that, I thought that Fire Watch would be very valuable and a way to give back to the community, so that was my impetus to get involved."

"Most of what we do is education," said Norma Bates of Lake Forest. The goal of Fire Watch is to help prevent fire damage in the area.

The Orange County Fire Watch volunteer program is managed by the Irvine Ranch Conservancy and facilitated in partnership with OC Parks, the cities of Irvine and Newport Beach, and the Orange County Fire Authority. It works with a broader network of watchers in Orange County.

More volunteers are needed and welcome, leaders said. The program has a variety of positions to fit people's abilities.

For information about volunteering, email Tony Pointer at tpointer@irconservancy.org.

September 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4 Weekly 60 m ACS Net
5	6 Labor Day (no net, no meeting)	7	8	9	10	11 Weekly 60 m ACS Net
12	13 Weekly 2 m ACS Net & OCRACES Teams Mtg	14	15	16	17 Orange County Amateur Radio Club Meeting	18 Weekly 60 m ACS Net
19	20 Weekly 2 m ACS Net	21	22	23	24	25 Weekly 60 m ACS Net
26	27 Weekly 2 m ACS Net	28	29	30		

Upcoming Events:

- **September 6:** Labor Day (no meeting, no net)
- **September 13:** OCRACES Meeting on Microsoft Teams, 1930 hours
- **September 17:** Orange County Amateur Radio Club Meeting on Zoom, 1900 hours
- **October 2:** City/County RACES & EmComm ACS Exercise
- **October 14:** Orientation for PSRs, Sheriff's Academy, 1830 hours
- **October 23:** Prescreen for PSRs, Sheriff's Academy, 0900 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.

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

OCSD RACES Coordinator

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Ernest Fierheller, KG6LXT

County of Orange RACES

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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



Heide Aguire K3TOG Randy Benicky N6PRL Eric Bowen W6RTR Ray Grimes N8RG Peter Jimenez K16UTE Walter Kroy KC6HAM Martin La Rocque N6NTH Steve Livingston NJ6R



Scott MacGillivray KM6RTE Don Mikami N6ELD Fran Needham KJ6UJS Harvey Packard KM6BV John Pilger K6PIO Joe Selikov KB6EID Robert Stoffel KD6DAQ Chuck Streitz KK6HFS Ken Tucker WF6F

**OCSD
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