July 2023

County of Orange RACES
NetControl

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

Next OCRACES Meeting

Online on Zoom

Monday, July 10, 2023 at 7:30 p.m.

Orange County Sheriff's Department Emergency Management Division

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

Bluetooth Adapters

Some recently introduced amateur transceivers include Bluetooth as a feature for connecting to headphones, wireless mics, and other equipment over a short distance without cables. For example, Kenwood's not-yet-released TH-D75A triband handheld radio (see page 5) includes Bluetooth. Interfaces are also available for radios without built-in Bluetooth.

Bluetooth is a short-range wireless standard for exchanging sound data or byte data between fixed and mobile devices over short distances (up to 33 feet) and building personal area networks (PANs). Transmitted power is mostly limited to 2.5 milliwatts within the ISM bands, from 2.402 GHz to 2.480 GHz, using frequency-hopping spread spectrum. Transmitted data is divided into packets, each packet on one of 79 designated Bluetooth channels. Each channel has a 1-MHz bandwidth. With adaptive frequency hopping (AFH) enabled, 1,600 hops per channel is typical. Bluetooth Low Energy uses 2-MHz spacing, accommodating 40 channels.

An example of a Bluetooth adapter that allows you to use a compatible wireless headset or other audio accessory with a mobile two-way radio is the Pryme BT-MOBILEKIT V2 wireless adapter for mobile radios. It is powered from a radio and provides wireless transmit and receive audio and multiple PTT options. It is compatible with Apple AirPods and Pryme's Low Energy (LE) PTT buttons. The adapter's interface cable plugs directly into either the microphone jack on the front of the radio or the accessory jack on the rear of the radio (depending on radio model). The BT-Mobile works with thousands of off-the-shelf Bluetooth headsets or Pryme's specialty headsets and wireless speaker mics.

An interesting Bluetooth speaker mic is the AnyTone BT-01 for use with the AT-D578UV FM/DMR mobile radios. With a 2.2-inch display, it has a built-in 'front-fire" speaker and channel/frequency select, zone select, volume adjust, PTT switch, etc.

An example of an integrated Bluetooth interface for portable or home stations is the West Mountain Radio RIGblaster Blue. It pairs with a PC, tablet, or smartphone to provide a sound device and a rig control serial port. Digital mode capability is provided on a tablet or smartphone. It pairs with a Bluetooth headset for receive and transmit. It uses bidirectional audio Bluetooth protocol (HSP and HFP). PC configuration software is included. With seven prewired jumper blocks (ISC), the RIGblaster Blue is configurable for most Icom, Yaesu, Kenwood, Elecraft, and Alinco radios with an 8-pin round or RJ-45 modular mic jack. Optional cables are available for 6-pin RJ-25 and 4-pin round mic jacks. Built-in rig control is provided with a TTL Icom (CI-V)/Yaesu (CAT) interface jack and RS-232C with DB-9 connector. Front-panel controls include XMIT LEVEL to adjust transmit drive, RCV LEVEL to adjust headset volume and waterfall brightness, and VOX DELAY.

Bluetooth headsets are also available for handheld radios that have a built-in Bluetooth feature. Some models include a single earbud and mic with PTT, and USB charge cable. ✦

OCRACES Participates in Field Day

OCRACES participated in Field Day on Saturday, June 24, 2023, for the first time since 2018. It was a scaled-down event, compared to our previous Field Days. All three OCRACES Field Day stations did not actively participate in ARRL Field Day contesting but focused on setting up in the field for possible future deployment during emergencies.

Showing up at our Field Day site at Irvine Regional Park east of Orange were Randy Benicky, N6PRL, and his wife Lee Anne, KI6VUH; Chief Radio Officer Ken Bourne, W6HK; Radio Officer Scott Byington, KC6MMF; Scott MacGillivray, KM6RTE; Fran Needham, KJ6UJS, and his wife Sharon and daughter Mona; and Chi Nguyen, KE6MVS, and his wife Chu Thu, KE6SFF. OCSD Emergency Management Division Deputy Director Lee Kaser, KK6VIV, arrived with burgers and hot dogs, but, unfortunately, the barbecue pit was commandeered by another group. Lee is our RACES Coordinator, and we appreciate his support and boosting our morale at Field Day. Also visiting our site was Fountain Valley RACES member Ted Roberge, K1LHJ, and his friend Bill Keith.

Randy Benicky, N6PRL, set up a station with his Icom IC-705 transceiver, covering HF, VHF, and UHF on all modes. He also set up vertical HF, VHF, and UHF antennas on masts and tripods. His mobile radio is the new Yaesu FTM-500DR 2-m/70-

OCRACES Field Day station at Irvine Regional Park east of Orange.

cm FM/C4FM transceiver.

Scott MacGillivray, KM6RTE, brought an elaborate portable EmComm setup. It included portable table and chairs, portable UHF/VHF/GMRS radios in a field case, his Icom IC-7300 HF radio in a separate field case, portable battery, solar arrays, HF and VHF/UHF antennas with masts and tripod, sandbags, cables, and documentation. Scott's focus was sending and receiving some Winlink VHF and HF messages, which he did successfully on VHF.

Chi Nguyen, KE6MVS, had a nice portable setup with radios mounted in a field case and mast-mounted antennas. For 6 meters FM and SSB he had a Kenwood TS-60S all-mode transceiver. On VHF/UHF FM he had a Kenwood TM-V71A transceiver. One of the stations he worked on 146.55 MHz was the Orange County Amateur Radio Club station, W6ZE, operated by Gordon West, WB6NOA, as the Chip Margelli, K7JA, Memorial Station. Chip became a silent key on May 25, 2023. He and Gordo were very close friends, and the Memorial Station was a wonderful tribute to Chip.

Thanks to Lee Kaser, KK6VIV, and Kevin McArthur, KK6JSG, of the OCSD Emergency Management Division for arranging this fine site with the Irvine Regional Park ranger. ✦

Randy and Lee Anne Benicky, N6PRL and KI6VUH.

Scott MacGillivray, KM6RTE.

Chi Nguyen, KE6MVS.

Ken Bourne, W6HK (left), and Lee Kaser, KK6VIV.

Next OCRACES Meeting: July 10th on Zoom

The next OCRACES meeting will be on Monday, July 10, 2023, at 7:30 p.m. We are moving it from July 3rd to July 10th because of the proximity to Independence Day, but we will still have a net on July 3rd. This meeting will again be online, on Zoom. The meeting ID and passcode will be emailed to the ocsd-races.groups.io list. Discussions will include Bluetooth adapters and City RACES Field Day reports. ✦

RadioMail Introduced for iOS

The Amateur Radio Safety Foundation has announced the release of RadioMail, a new client app for the iPhone by Island Magic Co. of Kauai, Hawaii. With RadioMail, you can easily send and receive Winlink emails via telnet or pair with modems to exchange emails over the air.

To use RadioMail with your radio, you will need to connect an external TNC interface. You can do this through Wi-Fi or Bluetooth, using a VARA modem or KISS packet modem. Radio control can be set up through rigctld if necessary. Note that RadioMail requires a running version of the VARA modem on a separate computer. For packet mode, the Mobilinkd and Dire Wolf packet modems are supported.

The built-in station directory automatically retrieves available station details and organizes them by proximity based on your current location. You can also add custom stations for peer-to-peer connections (outbound only). The favorites list is where you manage the preferred stations you want to connect to. Favorites stations can quickly be selected by modes and bands when you're ready to initiate a connection.

The app makes it easy to share images and files. You can access your phone's camera directly, or attach photos from your photo library. RadioMail automatically optimizes images to reduce the transmission time. When you receive an attachment, you can preview it and add annotations if you like. You can also save attachments to local folders or iCloud, or share them via other apps.

RadioMail can also check for new emails in the background at regular intervals, and notify you when a new message comes in. This way, you won't miss important emails even when you're not actively using the app. Additionally, you can use the phone's internal GPS to automatically provide an accurate location for position reports, which are posted to the Automatic Packet Reporting System (APRS) network.

To learn more, visit RadioMail or download the app from the App Store. You can also refer to the web site https://radiomail.app/ for a description of features. See a comparison of all Winlink client programs at https://www.winlink.org/ClientSoftware. ✦

Bill to Remove Private Land Use Restrictions

Congressmen Bill Johnson (R-OH-06) and Joe Courtney (D-CT-02) reintroduced a bill in the U.S. House of Representatives on June 12—H.R.4006 (see full text of bill in this PDF)—to remove private land use restrictions that prohibit, restrict, or impair the ability of amateur radio operators from operating and installing reasonable antennas on property that they own or control. Similar legislation, H.R. 9670, was introduced by Congressman Johnson in 2022.

"I reintroduced the Amateur Radio Emergency Preparedness Act to remove barriers to disaster and emergency communications and training, and to promote education in STEM subjects related to critically needed wireless technology," Congressman Johnson said in a release. "Passage of this bill will promote developing and sustaining our nation's wireless future and facilitate and encourage amateur radio operations as a public benefit."

"As their actions during recent natural disasters such as Hurricane Sandy proved, amateur radio operators in Connecticut can be a critical component of disaster response and emergency management. It is in our communities' best interest that we give them the capabilities to operate at the highest level, and with the re-introduction of this bill, we've taken a strong step in that direction," said Congressman Courtney.

The exponential growth of communities bound by private land use restrictions that prohibit both the operation of amateur radio and the installation of amateur station antennas has significantly restricted the growth of the Amateur Radio Service.

ARRL The National Association for Amateur Radio® continues its multi-year efforts to eliminate private land use restrictions that prevent amateur radio operations and has pledged to strongly support Congressman Johnson and Congressman Courtney in their efforts on behalf of Amateur Radio. ✦

Winlink in Orange County
## by Scott MacGillivray, KM6RTE, KM6RTE@gmail.com

Results from June 10th Countywide Winlink Peer-to-Peer Drill

This quarter's countywide Winlink Peer-to-Peer (P2P) drill was held Saturday, June 10th from approximately 8:45 am until 12:30 pm. The purpose of the practice drill was 1) to provide Winlink operators in Orange County the opportunity to gain experience using P2P operating mode, and 2) to verify their Winlink computer and radio equipment setup successfully operates in the P2P operating mode. This drill was similar to the ones held in previous quarters, and included the opportunity to use a form attached to their Winlink message.

As background, Winlink P2P is one of four operating modes that Winlink supports. Winlink conventional mode is the most commonly used and utilizes a connection to the internet by communicating via RF through a Radio Message Server (RMS), or more commonly referred to as a Winlink gateway. However, having experience utilizing P2P is a very important skill since, in a widespread disaster, it is reasonable to consider that internet access at a gateway may be not available. In that situation, Winlink is still a very viable method of sending and receiving digital messages by using P2P directly between stations (e.g., OC EOC at Loma Ridge and local city EOC). If the disaster has widespread electrical power outage, a gateway can still operate if it has some sort of backup electrical power. In that case, the gateway can be used as a P2P relay in order to extend the range of messages sent and received. My personally managed gateways (KM6RTE -10 and -12) are connected to a UPS (uninterruptable power supply) and/or backed-up electrical power.

For the June 10th exercise, Drill Ops, operating from the OCRACES radio room at Loma Ridge, communicated with over 15 different Winlink operators around Orange County. Overall, there were an estimated 43 messages transferred to/from Drill Ops during the 3½-hour long exercise. The majority of participants included a Check-In form. Though, some operators tried using the optional USGS (U.S. Geological Survey) DYFI (Did You Feel It) form. It appears that the form doesn't seem to display as a properly formatted form using P2P; however, the information can still be easily read as text paragraph.

The Winlink Express software is constantly improving and has been continually adding more capability to
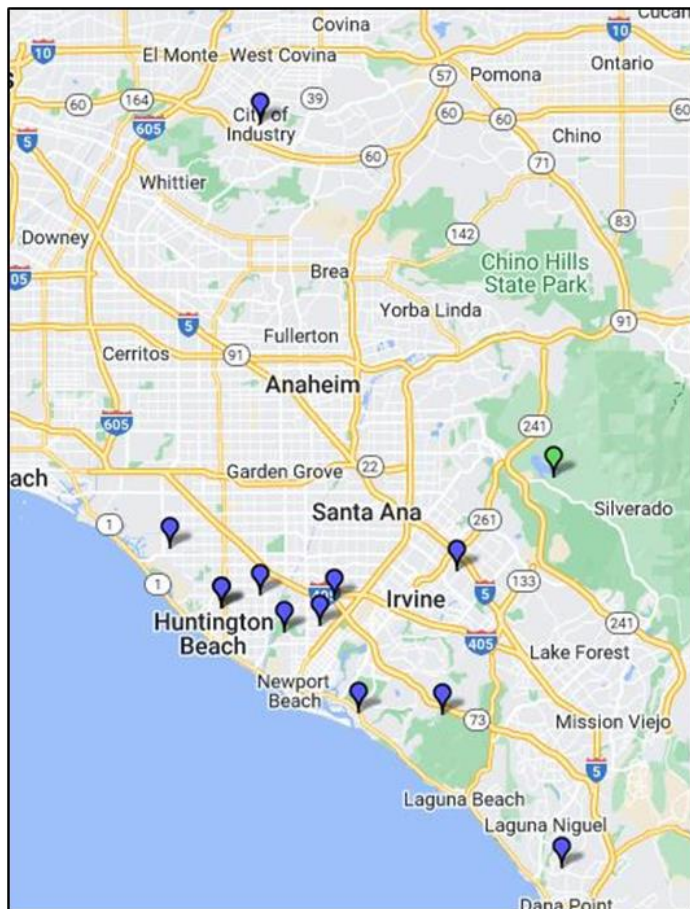
Figure 1. Automatically generated map showing locations of Winlink stations in Orange County that included GPS information in their Check-In forms.

handle the GPS location information included in the Check-In form, as well as many other Winlink forms. 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 the grid for their location (e.g., the green pin for Drill Ops). This explains why there are fewer than the 15 stations shown, since several locations ("pins") shown represent more than one station reporting.

The next countywide Winlink P2P drill is tentatively scheduled for Saturday, September 9th, from 9:00 a.m. until noon. In the meantime, continue to use the various Winlink gateways around the county to check out your equipment with conventional Winlink messages. Even better, try experimenting by going mobile with your Winlink setup. ✦

COAR Holds Practice Drill
by Scott MacGillivray, KM6RTE, COAR Chief Radio Officer

City of Orange Amateur Radio (COAR) members participated in a drill on June 17, 2023, by checking into an emergency activation net and then reporting to an assigned location in the city of Orange with their EmComm go kit. The emergency scenario used was a large-scale earthquake. In lieu of an actual earthquake, COAR members were notified of the incident (for drill purposes only) by email and GroupMe text that were sent out at an unannounced time during the morning of June 17th.

Within about 20 minutes of the activation, all available members had checked into Net Control, providing their availability status and current location. An assessment of available operators and their respective locations across the city was made by Net Control. From this assessment, operators were given an assignment to deploy with their EmComm go kits for service to one of three field locations within the city of Orange (see photo). After reporting to one of these "Neighborhood Incident Command Posts," each site team was provided with instructions, miscellaneous documents, and a variety of different messages representing the types of messages they would typically handle. Each site team prioritized these messages and then all COAR members were given the opportunity to send a message to the EOC Radio Room and handle the reply traffic. All traffic at the field sites was documented on an ICS-309 Communications Log form.

Of the active COAR membership, 35% checked into Net Control as available for activation and subsequently reported to their assigned location. Almost all of the remaining membership notified Net Control (by GroupMe text or by email) that they weren't available; mostly due to being out of the area. This resulted in 80% of COAR members providing a response to the drill messages. Of particular note is that all field sites were on the air ready to handle message traffic within an hour of receiving the activation notice. Way to go COAR!

City of Orange Amateur Radio (COAR) June 17th Drill Coordinated Message Traffic with Different Field Sites

Over the last couple of years, previous COAR drills have increased their realism by utilizing situations that include "injects" (i.e., spontaneous events, last-minute drill changes [e.g., repeater going offline]), detailed review of everyone's EmComm go kit, transcribing a variety of ICS-213 messages, and providing minimal notice of upcoming drill (i.e., "anytime in the next week").

Looking to make our future drills more realistic, COAR will continue to incorporate real-world elements, such as handling increased two-way message traffic from field sites, as well as working with other organizations (e.g., city of Orange CERT). In addition, COAR is eager to work with other city RACES units in Orange County as part of a larger coordinated multi-city emergency exercise. If you're interested, please reach out to Scott MacGillivray, KM6RTE@Gmail.com. ✦

Kenwood Presents TH-D75A Tribander

Kenwood is reentering the VHF/UHF handheld market with the TH-D75A triband 144/220/430 MHz FM/D-STAR/APRS transceiver. Features include built-in GPS APRS protocol (to exchange real-time GPS location data and messages), and D-STAR with simultaneous reception on DV mode (compatible for transferring voice and digital data over D-STAR networks). A Reflector Mode accesses D-STAR reflectors. A USB type-C port allows data transfer and charging. A built-in digipeater for APRS transmits received data. It includes call-sign readout. Band-A transmit range is 144-148 MHz, 222-225 MHz, and 430-450 MHz, and receive range is 136-174 MHz, 216-260 MHz, and 430-450 MHz. A built-in IF filter enhances SSB/CW reception on Band-B (receive only), covering 0.1 to 76 MHz. Band-B also covers 76 to 108 MHz for wideband broadcast FM reception. Also featured are Bluetooth, microSD/SDHC memory card slot, and link with a PC. Pending FCC approval. ✦

Countywide RACES/EmComm News

Buena Park RACES

Rosa Vasquez, KM6PRC, is now the Buena Park RACES Assistant Chief Radio Officer. (Lloyd Martin, KM6PRA, is the Chief Radio Officer.)

Cypress RACES

Steve Ciolek, KK6REB, is now the Cypress RACES Radio Officer.

Laguna Woods RACES

Phil Kowal, AJ6VT, is now the Laguna Woods RACES Assistant Radio Officer. (Bruce Bonbright, NH7WG is the Chief Radio Officer.)

Mission Viejo RACES-ARES

Dale Tyler, W6EDT, is now the Mission Viejo RACES Assistant Radio Officer. (Charley Speelman, WA6RUZ, is the Chief Radio Officer.)

Tri-Cities RACES

Bill Kreutinger, KM6SLF, is now the Chief Radio Officer and Technical Director of Tri-Cities RACES, which includes Dana Point RACES, San Clemente RACES, and San Juan Capistrano RACES.

Rob Stauffacher is now the City Coordinator of Dana Point RACES. (Drew Holtz, KI6IZD, is the Radio Officer.)

Lynn Mata is now the City Coordinator of San Clemente RACES. Phil Greenberg, W6SOI, is now the Radio Officer.

Ashley Melchor is now the City Coordinator of San Juan Capistrano RACES. John Killinger, KI6JWK, is the Radio Officer.

FCC Universal Licensing System (ULS)

At about 3:30 p.m. PDT on June 9, 2023, RACES members, as well as all radio amateurs and others who are licensed by the Federal Communications Commission, suddenly were unable to access the Commission's online Universal Licensing System (ULS), which includes Electronic Batch Filing (EBF) used by VECs for new and upgrade license submissions and club license applications, Application Search, License Search, License Manager system used for filing applications directly with the FCC, Tower Construction Notifications System, E-106 System, Antenna Structure Registration Online Filing and searches, TOWAIR, and all ULS Specialized Searches. Hams could still check license information at non-FCC sites such as https://www.qrz.com, but those sites were not

updating after June 9th. Without ULS access, radio amateurs were unable to file license renewals, vanity call sign applications, and other license updates online directly with the FCC. When trying to access the ULS, hams saw a notice that the site was unavailable due to maintenance. Some radio amateurs were speculating that the FCC had been cyberattacked by the Russian CL0P Ransomware Gang, which had just hacked into several federal agencies, including the Department of Energy.

In an email to VECs, the FCC indicated that a Public Notice was issued by the Commission on June 13th, stating that the ULS, Tower Construction Notification System (TCNS) and Antenna Structure Registration System (ASR) were unavailable since June 9th, due to technical issues.

The FCC extended deadlines for regulatory filings in ULS and ASR because of the unavailability of viewing the contents of the affected system. The FCC's Commission Registration System (CORES) used to pay fees was unaffected.

On Wednesday, June 21st, the FCC had reopened the ULS and supporting systems, according to an email distributed to VEC organizations. However the EBF system was still not available.

As of June 27th, the ULS, including the EBF system, and all systems were reported to be working.

The main FCC ULS website is at https://www.fcc.gov/wireless/universal-licensing-system. For a quick License Search, go to https://wireless2.fcc.gov/UlsApp/UlsSearch/searchLicense.jsp (very handy to put in your browser's "Favorites" list). For an advanced License Search, go to https://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp.

Orange County Amateur Radio Club (OCARC)

The next meeting of the Orange County Amateur Radio Club is Friday, July 21, 2023, at 7:00 p.m. Gordon West, WB6NOA, will talk on *VHF/UHF Propagation*. Autographed books will be available. This will be a hybrid meeting on Zoom and at the American Red Cross (George M. Chitty Building), 600 Parkcenter Drive, in Santa Ana. Interested online visitors can receive Zoom sign-on information on the day of the meeting from an email link that will be posted on the OCARC website after 9:00 a.m. PDT at https://www.w6ze.org.

July 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Weekly 60 m ACS Net
2	3 Weekly 2 m ACS Net (no meeting)	4 Independence Day	5	6	7	8 Weekly 60 m ACS Net & PSR Applicant Prescreen
9	10 Weekly 2 m ACS Net & OCRACES Meeting	11	12	13	14	15 Weekly 60 m ACS Net & OCSD Career Fair
16	17 Weekly 2 m ACS Net	18	19	20	21 Orange County Amateur Radio Club Meeting	22 Weekly 60 m ACS Net
23	24 ACS Nets on 4 Bands	25	26	27	28	29 Weekly 60 m ACS Net
30	31 Weekly 2 m ACS Net					

Upcoming Events:

- **July 4:** Independence Day
- **July 8, 0900 hours:** Prescreen for PSR Applicants, Sheriff's Regional Training Academy, Tustin
- **July 10, 1930 hours:** OCRACES monthly meeting on Zoom
- **July 14, 1900 hours:** Orange County Amateur Radio Club Meeting, American Red Cross (George M. Chitty Building), 600 Parkcenter Drive, Santa Ana
- **July 15, 0900-1300 hours:** OCSD Career Fair & Open House, Sheriff's Regional Training Academy, Tustin
- **July 21, 1900 hours:** Orange County Amateur Radio Club Meeting, American Red Cross (George M. Chitty Building) 500 Parkcenter Drive, Santa Ana
- **August 7, 1930 hours:** OCRACES monthly meeting at OC EOC, Loma Ridge
- **August 30, 1830 hours:** Orientation for PSR Applicants, Sheriff's Regional Training Academy, Tustin

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

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Radio Officer
Scott Byington, KC6MMF

Chief Radio Officer
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Assistant Radio Officers
Jack Barth, AB6VC
Ernest Fierheller, KG6LXT

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It's Where It's @!

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"W6ACS ...
Serving
Orange County"

Meet Your County of Orange RACES Members!

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W6HK

Scott Byington
KC6MMF

Jack Barth
AB6VC

Ernest Fierheller
KG6LXT

OCSD RACES Coordinator →

Lee Kaser
KK6VIV

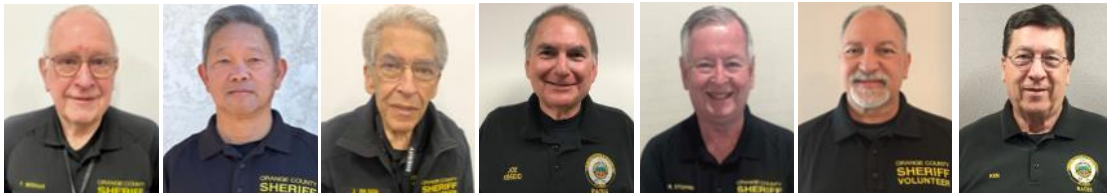Heide Aguire
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