November 2025

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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Next OCRACES Meeting

Monday, November 3, 2025, 7:30 p.m.

Online on Zoom

Members Only

Drill Reviews and Discussion of Tasks

Orange County Sheriff's Department
Emergency Management Division

CRO's Nest

by Ken Bourne, W6HK, Chief Radio Officer Emeritus

Controlling HF SSB Bandwidth (Especially on 60 Meters)

OCRACES conducts a 60-meter ACS net every Saturday morning at 10:00 a.m. on 5371.5 kHz upper sideband (channel 4), with check-ins from throughout Southern California and Southern Nevada. Some net participants also gather with others for a "roundtable" on Thursday nights at 8:00 p.m. on that frequency. As should occur on every net, reports should be given on poor signals, whether a weak signal, transmit audio quality (such as distortion or too much bass), or excessive bandwidth. Recently, at the end of a net, a participant reported to another participant that his signal bandwidth was too wide. (The FCC restricts single-sideband bandwidth on 60 meters to a maximum of 2.8 kHz.) Such reports must be given tactfully and in a friendly, helpful manner. An important purpose of a net is to check on signal quality, to help participants maintain their equipment in excellent operating condition, especially in case of emergency.

It is important to report poor signal quality, and to offer advice on how to remedy it, if you have appropriate knowledge. Correcting problems with SSB signal bandwidth can be a bit complex, and sometimes requires calibrated instrumentation to analyze the situation and make appropriate adjustments. Even without such instrumentation, basic adjustments can be made to assure FCC compliance and a good sounding signal.

Most amateur HF bands do not have a fixed numeric SSB bandwidth limit, but the FCC expects signals to occupy no more bandwidth than necessary for communications quality. A typical upper limit is about 2.8 to 3.0 kHz, with 60 meters uniquely capped at 2.8 kHz.

On 160 through 10 meters (with the exception of 60 meters), typical SSB bandwidth limit is about 2.8 to 3.0 kHz. There is no fixed numeric limit, but the signal must be communications quality and avoid splatter. On 60 meters, 2.8 kHz is a strict bandwidth limit due to federal use; the transmit filter should be set to about 2.4 kHz. On 60 and 2 meters, typical SSB bandwidth limit is up to 25 kHz. Wider bandwidth is allowed on 1.25 meters, up to 100 kHz. There is no explicit bandwidth limit on 70 centimeters and above, but we must follow "good amateur practice" to avoid unnecessary bandwidth.

Practical tips for staying within limits on HF SSB (160-10 meters) include setting transmit bandwidth to 2.4 to 2.8 kHz (2.4 kHz on 60 meters) for clean audio. Avoid overmodulation; excess mic gain or aggressive equalization can cause splatter. Use at least a panadapter or SDR display to visually monitor your signal width.

§ 97.307 of the FCC rules should be observed when setting bandwidth. This section is particularly strict for 60-meter bandwidth and frequency:

- **§ 97.307(f)(14):** Specifies SSB (2K80J3E) emission on USB only, not to exceed a 2.8 kHz bandwidth on five

(Continued on page 2

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authorized channels.

- **§ 97.303(h):** Requires the carrier frequency be 1.5 kHz below channel center, so that the SSB signal is centered within the 2.8 kHz allocation (i.e., dial frequencies are not at channel center but 1.5 kHz below).
- **§ 97.307(a),(d):** No more bandwidth than necessary for transmission, and all spurious emissions at least 43 dB below the fundamental for modern transmitters.

Amateurs are secondary users of 60 meters and must avoid interfering with primary government operations as coordinated by the National Telecommunications and Information Administration (NTIA). Digital emissions, previously restricted by NTIA to PSK31 and PACTOR-III, are now broadened per FCC (such as allowing FT8), but all emissions must still respect the 2.8-kHz bandwidth and be centered per regulations. NTIA reinforces the importance of strict compliance, clean signals, and yielding immediately to government transmissions.

60-Meter Channel Frequencies		
Channel	**USB Dial Frequency**	**Channel Center**
1	5330.5 kHz	5332.0 kHz
2	5346.5 kHz	5348.0 kHz
3	5357.0 kHz	5358.5 kHz
4	5371.5 kHz	5373.0 kHz
5	5403.5 kHz	5404.0 kHz

In the table above, the channel center is where the entire 2.8 kHz emission must fit; your voice signal should stay strictly within ±1.4 kHz of center, which translates to a dial setting of center minus 1.5 kHz. Yaesu transceivers are a confusing exception; when operating on upper sideband, the displayed frequency remains the channel center, even though the actual emission is 1.5 kHz lower.

Your transmit filters should be set as follows:

- **Set Transmit Bandwidth to 2.4–2.7 kHz Maximum:** ARRL, FCC, and equipment manufacturers recommend limiting your SSB transmit bandwidth to 2.4–2.7 kHz to guarantee compliance while allowing for filter skirt roll-off. While 2.8 kHz is the absolute legal edge on 60 meters, practical filter shapes may slightly encroach past their nominal settings due to response roll-off. 2.4–2.7 kHz ensures the zero energy point of the filter does not exceed the channel edge.
- **Lower Filter Edge:** Set as low as audio intelligibility permits (often 100–300 Hz), but not so high as to eliminate essential speech frequencies.
- **Upper Filter Edge:** Set at 2.4–2.7 kHz above base frequency (e.g., 100–2500 Hz, or 300–2700 Hz), as supported by your radio; do not use "wide" or "broadcast" audio configurations

Manufacturers such as Icom, Kenwood, and Yaesu recommend setting SSB transmit bandwidth to 300-2700 Hz (2.4 kHz), even on non-60-meter HF bands. The Elecraft K3 that is in the OC EOC RACES Room can be set at 2.4 to 2.7 kHz. FlexRadio SDRs have a low cut ≥100 Hz and a high cut ≤2900 Hz (2.8 kHz).

Proper control of microphone gain and transmit processing is critical on 60 meters, as overdriving results in spectral regrowth, increased intermodulation distortion (IMD), and bandwidth excess ("splatter") that can easily violate the 2.8 kHz rule. To set microphone gain, first turn off compression/processing temporarily. Set transceiver to USB; tune to a dummy load or unused channel. Select ALC meter. Speak in your normal voice. Adjust mic gain so that ALC barely moves or peaks in the lower part of the range (no more than 30–50% of the scale on most radios). Too much ALC indicates overdrive, which causes the transmitter's output to flatten or clip during peaks. This increases unwanted splatter and can widen the transmitted signal beyond the legal bandwidth. Many Yaesu radios have AMC (Automatic Mic Control), which is an audio-level based limiter that prevents overdriving the modulator. Set AMC for peak readings of about 10 to15 on the AMC meter (if available) with normal speech. Do not try to maximize ALC or AMC for more "talk power"—this guarantees splatter! On Icom radios, such as the IC-7300 and IC-7610, set mic gain so the ALC meter reads 30 to 50% of the scale on peaks, with compression off.

Compression increases average talk power, but also the risk of waveform distortion and bandwidth excess. Set compression conservatively (start with COMP 3–5 on Icom, or ~10 dB maximum on Yaesu's COMP or PROC meter). Higher settings are unnecessary for local QSOs and can easily create splatter, especially when combined with high mic gain. Test by alternately toggling processor on/off and observing ALC/COMP meters and listening to your signal (either with a monitor or via an SDR receiver).

Equalization (EQ) can definitely improve both transmit and receive audio quality, but use it with restraint! Boosting bass or treble excessively can contribute to out-of-band energy. For best results, cut lows below 250–300 Hz and avoid excessive bass boost. Slightly boost "presence" frequencies (2–3 kHz) if desired for clarity, but never beyond the upper transmit filter edge. Use built-in parametric EQs per manufacturer's menu instructions; monitor the effect both on the air and with clean headphones. ✸

OCRACES Meeting: November 3rd on Zoom

The next County of Orange RACES meeting will be for members only on Monday, November 3, 2025, at 7:30 p.m., on Zoom. It will be a meeting to discuss tasks, review meetings and drills, and more.

Members will receive status updates on tasks and projects, discuss upcoming activities, review the October 18th drill, plan for the December 6rh "EmComm Go-Kit" get-together and lunch, and discuss future OCRACES leadership.

The Zoom meeting ID and passcode were emailed on October 15th and 25th to the OCRACES members via Groups.io and are available from the *NetControl* Editor. ✸

OCRACES Leads October 18th Drill

OCRACES will lead a countywide emergency communications (EmComm) drill on Saturday, October 18, 2025. The disaster scenario was widespread and extensive violence by protestors, including arson, vandalism, and cyberattacks on county and city infrastructure such as power distribution stations, phone exchanges, and other utilities. As a result, most of Orange County was without power, the internet, and regular and cellular phone service. The County EOC and most city EOCs were presumably activated.

Voice messages were prewritten and distributed to the City and EmComm EOCs, based on the scenario, covering such situations as groups causing property damage and inflicting personal attacks, looting, occupation of city government facilities, and fires set on commercial and government buildings. The messages also mentioned the failure of normal intercommunications between the County and various city and hospital EOCs are not working. OCRACES members at the EOC RACES Room were given copies of the messages and documented correct transmission of the traffic.

OCRACES members who were not at the OC EOC could not participate in the voice message element of the drill. They could check into the 60-meter ACS net that was run simultaneously. City RACES units and EOCs that checked into the 60-meter net included Fountain Valley, Tri-Cities (San Clemente EOC), and Costa Mesa. They were prepared to ask the 60-meter net control to relay their traffic to the OC EOC if they had not been able to reach them on an OCRACES repeater. Newport Beach Repeater Club and Cal OES CRU also checked in.

Individual members communicated with the OC EOC RACES Room during the Winlink Message Traffic element of the drill, which took messages from all EmComm operators across Orange County and adjacent counties. Messages were sent to W6ACS by Winlink RMS gateway or telnet with an attached Field Station Report form with information pertinent to the disaster scenario. ✸

ShakeOut Activity Involves ARES and USGS

OCRACES did not conduct an earthquake drill this year during the California Great ShakeOut on Thursday, October 16, 2025. Rather, some OCRACES and City RACES and EmComm members checked into the SoCal ShakeOut Voice Net run by the LAXNORTHEAST ARES group on the Disaster Amateur Radio Network (DARN) repeater system, beginning at 10:20 a.m.. There was no practice earthquake traffic. Participants simply checked in with their call sign and the network repeater site they were accessing. (Orange County participants typically used the DARN 7 repeater on Santiago Peak.) Net control intended to begin check-ins from San Diego County and work north, but this method was abandoned when noise on one of the sites interrupted check-ins for over 10 minutes.

LAXNORTHEAST collaborated with the EmComm Training Organization (ETO) in the 2025 ShakeOut Earthquake Drill and the Amateur Radio Community Intensity Mapping (ARCIM) exercise on Winlink. Participants posted Winlink messages to the U.S. Geological Survey (USGS).

Despite the government shutdown and the absence of the official USGS ShakeOut scenario map, amateur radio kept the information flowing. Worldwide, there were 6,858 registered participants on ShakeOut.org. 1,016 DYFI ("Did You Feel It?") reports were received and 972 mapped on ARCIM. Operators represented 46 U.S. states and 12 countries. New stations joined from Sweden and there were strong showings from Norway, Puerto Rico, and Tennessee—matching the traditional strength of California and the West Coast.

There was a 77.9% year-over-year participation in ARCIM.

DYFI report instructions were downloaded by participants from the LAXNORTHEAST website.

The exercise was supported by USGS, Earthquake Country Alliance (ECA), and ShakeOut.org teams.

✸

Government Shutdown Affects Ham Licensing

A bulletin sent to members of ARRL The National Association for Amateur Radio® included information about the impact of the U.S. Government shutdown on licensing for the Amateur Radio Service.

The government shutdown began at 12:01 a.m. Eastern time on Wednesday, October 1, 2025, when Congress had not passed an appropriations bill or other plan to keep the government funded for the new fiscal year (which began October 1st).

The Federal Communications Commission (FCC), which issues Amateur Radio Service licenses, issued a Public Notice on Tuesday, September 30, indicating that it would suspend most operations following a shutdown. "Aside from a few emergency and auction filing systems, all other Commission electronic filing systems will be unavailable to the public until normal agency operations resume," said the FCC Notice.

ARRL Volunteer Examiner Coordinator (ARRL VEC) Manager Maria Somma, AB1FM, said the FCC systems appeared to go off-line around 1 p.m. Eastern time on Wednesday, October 1st, and redirected to the Public Notice. This means the FCC will not be processing any amateur radio license applications during the shutdown, which includes individual, club, and exam session (new and upgrade) applications.

"But ARRL Volunteer Examiners should continue giving exam sessions," said Somma. "Keep doing what you're doing. Keep serving new and upgrade candidates for amateur radio licenses." Somma also urged that Volunteer Examiners continue to promptly forward session results from their exams to the ARRL VEC.

"Please do not hold your session results. Send your sessions to us, and ARRL VEC will continue to queue all applications as they are received. Once the federal government reopens, ARRL VEC will promptly resume submitting applications to the FCC for processing. So, keep sending sessions to the ARRL VEC."

The FCC's shutdown notice indicated that CORES registration system would remain available for certain activities, but New Registrations are currently not being accepted. This means that new applicants cannot register for an FRN. This has created a temporary barrier for individuals who wish to take an amateur radio exam but do not yet have an FRN. Existing users can still log in and access their accounts and applicants who already have an FRN can test without issue.

Temporary Testing Procedure Without an FRN:

Given the current situation, **ARRL VEC** will **temporarily allow testing without an FRN (FCC Registration Number)**, with the understanding that:

1. The applicant would take the exam and receive a CSCE (Certificate of Successful Completion of Examination).
2. Once CORES resumes issuing new registrations, the applicant would:
    - Register for an FRN.
    - Contact the coordinating **VEC** with their FRN.
    - The **VEC** will submit their application to the FCC.

In the ExamTools system candidates without an FRN should:

1. Use '0000000000' (ten zeros), then select "I don't have an FRN".
2. Complete the session registration.

   CSCEs will be issued to successful candidates.

For teams using paper exams:

Candidates without an FRN should leave the FRN field blank on all forms.

CSCEs will be issued to successful candidates.

This approach will preserve momentum for new licensees and avoid delays in testing.

Note: Other VEC organizations may also offer similar alternative testing methods. Check with them directly for their specific procedures.

Continue to check the ARRL website for updates as they become available.

The FCC's Universal Licensing System (ULS) databases are also currently unavailable to the public. ULS and related systems (like the License Manager, License Search, Application Search, etc.) are not accessible during the shutdown. Users cannot file applications with the FCC, or access license data, including address information.

To find an amateur radio exam session, visit www.arrl.org/find-an-exam. For a list of VE Teams that offer Online Exam Sessions, go to www.arrl.org/online-exam-session.

About the ARRL Volunteer Examiner Coordinator (ARRL VEC)

The ARRL VEC program has a long-standing tradition of serving the Amateur Radio Service and the FCC. As the largest VEC in the nation, the ARRL VEC operates as a knowledgeable information source for a wide-range of licensing services and issues. The ARRL VEC supports nearly 30,000 ARRL-accredited Volunteer Examiners (VEs) who support the amateur radio community by offering exam opportunities. ✸

FCC Plans to Delete Minor Part 97 Provisions

As part of a much larger overhaul focused on deleting almost 400 obsolete wireless regulations, the Federal Communications Commission (FCC) has announced plans to delete or modify four minor provisions of Part 97.

ARRL's Washington Counsel has reviewed the proposal and agrees that the deletions are to obsolete rules and will have no impact on today's modern Amateur Radio Service. One of the deletions was suggested by ARRL as part of an earlier FCC request for public input on rules ripe for deletion.

The proposed regulatory changes are to:

1. **Delete § 97.27**. This provision relates to the FCC's right to modify station licenses. The Commission rationale for deletion is that it duplicates Section 316 of the Communications Act. Its deletion will result in no substantive change to the right of the FCC to modify a station license.
2. **Delete § 97.29**. This provision specified the procedure to replace paper licenses. The FCC stopped producing paper licenses at the end of 2020, having implemented a system that allows any licensee to download license originals using the password-protected area of the FCC's ULS computer database system that is web-accessible.
3. **Delete § 97.315 (b)(2)**. This provision grandfathered HF amplifiers purchased before April 28, 1978 by an amateur radio operator for use at that operator's station and also grandfathered those manufactured before April 28, 1978 for which a marketing waiver was issued. The applicability of this rule has long passed.
4. **Delete § 97.521(b) and Appendix 2**. This rule and appendix relate to VEC regions, which were based on the traditional amateur call sign areas. The FCC no longer limits VECs to regions and there is no reason for doing so given the nature of remote exams.

"Direct Final Rule" proceedings such as this are limited to rules that are no longer applicable because they have sunset by operation of law; govern an expired event; regulate an obsolete technology; regulate virtually a null set of FCC licensees; regulate an outdated market structure; or otherwise are no longer used in practice or otherwise in the public interest. The deletions will become effective 60 days after publication in the Federal Register unless the Commission finds that adverse comments filed within 20 days of publication raise significant issues that merit additional consideration.

ARRL will continue to engage with the FCC in the regulatory and rulemaking process as part of its mission to promote and protect the art, science, and enjoyment of amateur radio, and to develop the next generation of radio amateurs. ✸

Chirps Invade 60 Meters!

Strange sounding signals are common throughout the HF spectrum. One of those signals (sounds like a chirp) has been noticed lately on 60 meters channel 5 (5404.0 kHz channel center, 5403.5 kHz USB dial frequency). Fortunately, that's not on the 60-meter frequency (channel 4) that OCRACES uses for its Saturday morning nets.

A chirp-type signal around the 60-meter spectrum is likely a form of frequency-swept transmission used in radar, sonar, or communications—possibly military or experimental—where the signal's frequency increases or decreases over time. A chirp signal is one where the frequency changes over time—either increasing (up-chirp) or decreasing (down-chirp). It's commonly used in radar, sonar, and spread-spectrum communications because it improves detection, resolution, and resistance to interference.

The 60-meter spectrum is shared between amateur and government/military users in the U.S. Signals in this range may be military or government communications, especially using ALE (Automatic Link Establishment) or encrypted chirp-based modes. Strange signals could also be propagation beacons or ionospheric sounders, which use chirp signals to study how radio waves travel through the atmosphere.

The source of the strong mysterious signal was revealed by Al Chavez, KJ5GT, in Albuquerque, New Mexico, during a recent conversation with OCRACES members and other Southern California and Arizona radio amateurs during a recent Thursday evening conversation on channel 4 (5371.5 kHz USB dial frequency). Al said it was CODAR (Coastal Ocean Dynamics Application Radar), which is a type of HF radar system used primarily for monitoring ocean surface currents. It can operate anywhere from 4 to 25 MHz, which includes 60 meters. It has been known to operate on channel 4 in the past.

CODAR systems use frequency-modulated continuous wave (FMCW) chirp signals to measure the Doppler shift of ocean waves. These chirps sweep across a range of frequencies (e.g., 4.5–5.4 MHz), allowing the radar to resolve both range and velocity of surface currents. The reflected signals from the ocean surface are analyzed to determine current speed and direction over large coastal areas.

The 5400 kHz region is part of the HF spectrum where CODAR systems often operate due to favorable propagation characteristics over water. HF radar can cover hundreds of kilometers, making it ideal for coastal monitoring, search and rescue, and environmental studies. CODAR applications include real-time ocean current mapping, tsunami detection and modeling, oil-spill tracking, support for maritime navigation and safety, and data for climate and weather models. ✸

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 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

December 6th Go-Kit Get-Together

OCRACES is planning an informal get-together for all EmComm operators to discuss and share emergency communications go-kits.

The goal is to learn some "best practices," as well as pick up some "tips and tricks" from others. This is a great opportunity to become familiar with portable communications, antennas, and electrical power equipment to better respond when a disaster occurs, or if you're interested in the popular "Parks on the Air (POTA)."

The event will start at 0900 hours on Saturday, December 6, 2025, at the Orange County Sheriff's Regional Training Academy gravel parking lot located at 15991 Armstrong Avenue in Tustin (what3words: ///settled.jokers.retina). You are encouraged to bring your portable equipment and set it up for display near your car, especially if you have novel or complete solution(s). If so, get there early to have your display set up and ready by 0900. However, bringing your equipment is not required since a key goal of the event is to learn from others and get ideas to help build your EmComm Go-Kit.

If it's raining or other inclement weather, the event will be postponed to the following Saturday, December 13th.

The plan is to meet up at the blue canopy in the gravel parking area for a brief overview and discussion, and then go as a group from setup to setup so that everyone can participate in the discussions at each setup.

After we've finished, you are encouraged to join us for lunch at The Mess Hall at FLIGHT located only a few blocks away at 1705 Flight Way in Tustin (what3words: ///bump.attracts.blesses). It is like a food court, with several different types of food options.

Orange County Amateur Radio Club (OCARC)

The next meeting of the Orange County Amateur Radio Club will be on Friday, November 21, 2025, at 7:00 p.m., at the American Red Cross (George M. Chitty Building), 600 Parkcenter Drive, Santa Ana). The guest speaker will be Scott Bovitz, N6MI. Scott owns a converted news van with a telescoping mast that he uses when operating from remote areas in contests and other events.

San Bernardino Microwave Society (SBMS)

The next meeting of the San Bernardino Microwave Society will be on Thursday, November 6, 2025, at 7:00 p.m. PDT, at the American Legion Hall, 1024 S. Main Street, in Corona. To watch the SBMS meeting live, go to the American Television Network Live on YouTube and click on the "Live Now" window. To participate in meetings via Zoom (when available), use this ID and Passcode: 886 9217 9521; 10368310.

SteppIR Antennas

SteppIR has announced that it is stopping production of all amateur radio and other consumer antennas starting in August. The company's statement, which appeared on its website, said that it would continue to honor all product warranties and provide technical support as needed. Now, when attempting to access information about particular series of antennas, a message is displayed saying, "Oops! That page can't be found."

The company said: "Given our long history of impact and innovation we don't take this decision lightly but have decided that it is necessary for our ongoing operations and to make sure we can continue to efficiently provide our existing customers with product support services."

All antenna and spare-parts orders were fulfilled by the company through to the end of August. After the 31st of the month, SteppIR is selling spare parts as long as the inventory permits.

Based in Washington state, the company has been well-known in the amateur radio community since 2001. SteppIR produced a variety of mechanically adjusted, remotely tuned, frequency optimized HF/VHF Yagi, vertical, and dipole antenna systems that served military, commercial, emergency communications, and consumer markets. The company continues to manufacture for the commercial and military markets.

November 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Weekly 60 m ACS Net
2 Daylight Saving Time ends	3 Weekly 2 m ACS Net & OCRACES Meeting	4	5	6 San Bernardino Microwave Society Meeting	7	8 Weekly 60 m ACS Net
9	10 Weekly 2 m ACS Net	11	12	13	14	15 Weekly 60 m ACS Net
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 Weekly 2 m ACS Net	25	26	27 Thanksgiving Day	28	29 Weekly 60 m ACS Net
30						

Upcoming Events:

- **November 2:** Daylight Saving Time ends
- **November 3, 1930-2130 hours:** OCRACES Meeting on Zoom (members only)
- **November 6, 1900 hours:** San Bernardino Microwave Society Meeting, American Legion Post #216, 1024 S. Main Street, Suite B, in Corona
- **November 21, 1900 hours:** Orange County Amateur Radio Club meeting, American Red Cross (George M. Chitty Building), 600 Parkcenter Drive, Santa Ana; annual Radio/Electronics Auction
- **November 27:** Happy Thanksgiving!
- **December 6, 0900-1200 hours:** EmComm Go-Kit Event

Mission Statement

■ **To provide emergency communication services for the County of Orange under the guidance of the Orange County Emergency Manager and Emergency Management Division Personnel**

■ **These services include, but are not limited to:**

- **Support to the County of Orange Emergency Management Division with auxiliary communications capabilities from County Emergency Operations Center radio room and field locations to and from:**
  - **The general population,**
  - **Orange County city RACES, EmComm, and Public Service organizations,**
  - **Adjacent counties, and**
  - **State and Federal Government organizations**
- **Provide voice and digital communication services in the event of the loss of existing communications infrastructure including public service radio services, cellphone service, internet service, conventional power, and any combination of these services**

County of Orange RACES Frequencies

60 m: 5371.5 kHz USB (dial) (Channel 4) (OC ACS 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: 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) (down)
*Primary Net—Mondays, 1900 hours

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https://ocraces.org
It's Where It's @!

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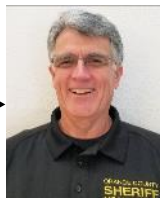
"W6ACS ... Serving Orange County"

Meet Your County of Orange RACES Members!

Officers →



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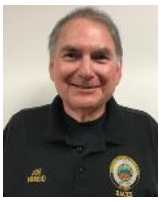

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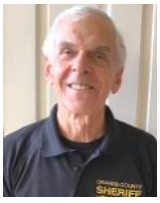
KM6ZHO

Bill Griffin
KO6JHY

David Janisch
KN6HEE

Ted Lavino
KG6LZP

Steve Livingston
NJ6R



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