

December 2012



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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Captain's Corner

by RACES Captain Ken Bourne, W6HK, Chief Radio Officer

Living a Balanced Life

An article, "Is your Life Really Balanced?," by Sgt. Betsy Brantner Smith, placed on November 8, 2012, on PoliceOne.com, set me thinking about how we RACES members need to "train" for our personal lives as hard as we train for our performance during disasters and emergencies. If a disaster or medical emergency happens in our immediate family, especially when we have signed up for a RACES shift during a countywide disaster, what is our first priority? It should be family, of course!

I am amazed, and extremely proud, of the commitment shown by OCRACES and City RACES and MOU members to their RACES responsibilities. We have taken FEMA courses for ICS 100, 200, and 700 certification, we had a large room at the EOC filled with those who wanted to be trained for Severe Fire Weather Patrols, we have attended EOC orientation training and SONGS (San Onofre Nuclear Generating Station) training and drills, we have responded for long and repeated shifts during fire storms, we have participated in many events, and we have worked on updating and repairing EOC and our own equipment and antennas. Yet, we are never satisfied—which is good!. There is always more to learn and more equipment to procure, either for our own pleasure or to be better equipped for emergency communications response. You could say that we are radio fanatics—but are we that way at the expense of our families or our jobs? I don't

know about each of you, but I admit that for the more than 56 years I've been a RACES member and amateur radio geek, I've struggled, and still struggle, to maintain balance in my life. Amateur radio and RACES are just too interesting, especially when I'm surrounded by RACES members who are so dedicated to learning and serving. But we must balance the responsibilities of serving in RACES with our lives outside of RACES. Many of us spend so much time and energy in doing the best we can in RACES that, if we are not careful, our RACES life or amateur radio in general may overshadow everything else.

We hams often allow our activities, whether it's RACES or experimenting with radio-electronics technology or chasing DX or working contests, to become the central focus of our lives. We might think that makes us better emergency responders or more knowledgeable radio geeks or better contesters, but it doesn't make us better people, if we don't maintain a balanced life.

We often hear complaints from our fellow hams that our families don't understand or care about what we are doing. In many cases, that's *our* fault! Typically, we don't tell our family members or non-ham friends what amateur radio or RACES is really like, maybe out of fear of being rejected by them as being weird radio geeks more devoted to radios than to them. It seems like a vicious circle—but talk to them anyway about what you find exciting in amateur radio and RACES. Do it in such a way as you want them to realize that sharing your life with them is a way of caring

OCRACES
Holiday Dinner

December 3, 2012
1830 Hours

Katella Grill
 1325 W. Katella Ave.
 Orange

No regular meeting in
 December and no
 OCRACES net on
 December 3rd



Orange County Sheriff's Department
Communications & Technology Division

Continued on page 2

Captain's Corner *Continued from page 1*

about them—that they are just as important—even more important, than your amateur radio activities. Share everything with them, not just the thrill of working a new country or spotting a weird guy with a torch during a Severe Fire Weather Patrol, but also things that bother, anger, confuse, or worry you, such as your computer crashing while you try to get the complexities of Winlink working (I've been there!). Your family members don't have to understand the technology of your computer crashes or the smoke coming out of your transceiver, but they will appreciate that you are sharing your frustrations with them in order to seek their empathy and comforting words. Likewise, listen attentively to them when they share their frustrations with you, even if you don't understand their entire problems. You want them to care about you, but first you must care about them. When Carol and I got married almost 50 years ago, I remember our pastor, referring to Ephesians 5:31, saying that as a man leaves his father and mother and is united to his wife, the two will become one flesh. That partly means that if I have a success or failure in RACES, it becomes Carol's success or failure also. Likewise, if Carol has some good news or a frustration, she needs to share it with me so it becomes my good news or frustration as well. I never want to hear a RACES member complaining about his or her spouse, even if that spouse just blew up a new Windows 8 computer! Not only is that disloyal, but that member would then be complaining about himself or herself—based on the principle of two becoming one flesh.

It's OK to tell your spouse or other family member, "I'm really worried that I am not well prepared for the RACES drill next Saturday." By sharing that worry, your spouse might actually forgive you for preparing for the drill or meeting that occurs on his or her birthday or on your anniversary! (I've been there!) Sometimes talking with your spouse or other family members or friends will help you frame your concerns differently than just talking with your fellow RACES members.

If you have children, talk to them (at their level!) about what you did in your latest RACES or amateur radio activity—not in such a way as though you were pressuring them to get a ham license or to become an emergency responder, but simply because you love them and want to share your joys and interests with them. By doing that, you are inviting them to share their joys and interests (as well as worries) with you. Trade stories with them, rather than just asking, "How was your day?" (which often results in one-word answers). If you went to a RACES training session, teach them what you learned that day (at their level, taking care not to bore them).

Enthusiasm is contagious. If you share with your children your excitement about what you just learned, in an enthusiastic way that shows you are really interested in them, you will get a positive response. Kids love to learn about new things, especially if they are not pressured to have the same interests that you have. For starters, show them a dial on a broadcast radio, tell them in simple terms what the numbers mean, and then invite them to think what they might discover if they could keep tuning the dial beyond the broadcast band. Up to that point, most kids probably never even thought about the exciting mysteries of radio communications outside the broadcast spectrum, or that there is even a radio spectrum! Next, bring your kids into your ham shack, and let them tune around on your HF transceiver.

If you're studying to upgrade your ham license or pass a FEMA exam, invite your family and non-ham friends to help you study for exams. Or ask your spouse for suggestions on how to make your ham shack more attractive or presentable. They will feel more connected, and you will feel more balanced.

So far, I've mostly talked about sharing amateur radio and RACES with your family and non-ham friends. It's a two-way street in a balanced life. Encourage your family and non-ham friends to share their non-ham and non-RACES lives with you, and take a real interest in them. Ask them to tell you about the books they are reading, the TV shows they enjoy, and the recreational activities they participate in. If you used to have fun participating with them in various activities such as fishing, going to the movies, softball, visiting parents once a week, etc., before you got so wrapped up in ham radio and RACES, get back to the old fun. Rejoin your family! You will then enjoy ham radio and RACES even more, knowing that you are no longer depriving your family of yourself. As Sgt. Smith says, "Keep the constructive links to your 'before' life connected." Be proactive about scheduling time for activities that don't involve amateur radio or RACES. "It's essential to your emotional health," says Sgt. Smith.

Sgt. Betsy Smith's article also addresses the problems that female cops face in a male-dominated profession. Her advice would also pertain to women in amateur radio, which is a male-dominated activity. New YL hams should seek advice from experienced YLs, and perhaps join YLRL (Young Ladies Radio League). Whether you are male or female, reach out to your brothers and sisters in amateur radio and RACES and to your family and friends outside of ham radio. Sgt. Smith says, "Achieving balance in your life isn't easy, but it's extremely rewarding."

OCRACES Holiday Dinner: December 3rd

The annual OCRACES Holiday Dinner will be held at the Katella Grill, 1325 West Katella Avenue in Orange, on Monday, December 3, 2012, at 6:30 PM. Dinner selections will be made individually from the restaurant's menu. Due to that event there will not be an OCRACES 2-meter net that evening.

Communications Division Holiday Luncheon

The annual OCSD Communications & Technology Division Holiday Luncheon will be held on Wednesday, December 12, 2012, at 11:30 AM, in the Eckhoff Facility service bays. The Division's Radio Microwave Unit will provide their culinary expertise. OCRACES members and their spouses are invited. If you are attending, please contact Secretary II Angela Strehle via e-mail at angela.strehle@comm.ocgov.com no later than December 5th.

Next OCRACES Meeting: January 7th

The next County of Orange RACES meeting will be on Monday, January 7, 2013, at 7:30 PM, at OCSD Communications & Technology Division, 840 N. Eckhoff Street, Suite 104, in Orange. Our guest speaker will be Cypress RACES Member Ed Kane, W6ONT, demonstrating his team's low-speed data capability via D-STAR to pass simplex traffic. They use "DSTARChatUSB" for keyboard-to-keyboard chat and exchanging e-mails using any e-mail client, even with attached files. Ed has found that any USB-to-serial adapter cable with an FTDI chip set works.

RACES and MOU Members Support Election

OCRACES as well as City RACES units and the Hospital Disaster Support Communications System (HDSCS) supported communications between 33 Collection Centers and the Vote Tally Center (VTC) on the night of the Presidential Election, November 6, 2012. OCSD Communications & Technology Division, under the leadership of OCSD 800 MHz CCCS Next Generation Project Manager Marten Miller, KF6ZLQ, coordinated ballot transportation. RACES and MOU members recorded the precinct numbers of the boxes being loaded into the vans, and transmitted those precinct numbers to Net Control when the vans departed from the Collection Centers enroute to the VTC. Three OCRACES repeaters were used. Operating Net Control were Kenan Reilly, KR6J, Tom Tracey, KC6FIC, and Brian Turner, KI6WZS. Other OCRACES members at the VTC for radio and traffic-control duties included Sgt. Jack Barth, AB6VC, John Bedford, KF6PRN, Lt. Scott Byington, KC6MMF, Sgt. Chuck Dolan, KG6UJC, Marty Oh, KJ6RWE, and Lt. Ralph Sbragia, W6CSP. The Collection Centers and RACES/MOU communicators included: Anaheim PD (Anaheim RACES); Canyon Hills (Anaheim RACES), Buena Park (Buena Park RACES), Costa Mesa (MESAC), Santa Ana (SART), Fountain Valley (Fountain Valley RACES), Fullerton (Fullerton RACES), Garden Grove (OCRACES Member Walter Kroy, KC6HAM), Huntington Beach (HBRACES Members Steve Albert, KE6OCE, and Deb Harriot, AE6HM), Irvine (IDEC), Laguna Beach (Laguna Beach RACES), Laguna Woods (Laguna Woods RACES Members Joe Burkhardt, KBØIG, Jim Riedel, K6EEE, and Don Schwab, K6IAA), La Habra (Fullerton RACES), Los Alamitos (Los Alamitos RACES), Orange (COAR), Rancho Santa Margarita—FS #45 (Knute Josifek, K6HIV), Placentia (Placentia RACES), San Clemente (Tri-Cities RACES Members Bret Gross, KJ6WNG, and Joe Lopez, W6BGR), Saddleback (Jay Center, AD6AT), Tustin (OCRACES Capt. Ken Bourne, W6HK), Westminster (OCRACES Members Bob Dillard, K6DNR, Chi Nguyen, KE6MVS, and Antonio Zelaya, AF6II), Laguna Niguel—FS #49 (Clark Croisette, KI6IZE, and Ed Ginn, K6MFI), Aliso Viejo (OCRACES Member Joe Selikov, KB6EID), San Juan Capistrano—South Coast Christian Assembly (Tri-Cities RACES Member Dan Pinvidic, KJ6FBW), Anaheim—West Anaheim Youth Center (Anaheim RACES), Corona Del Mar—Episcopal Church (Harry Wallace, KI6VVN), Handy School—Orange (COAR), Huntington Beach Faith Church (HBRACES), Boeing—Huntington Beach (HBRACES), Irvine—University High School (IDEC), Mission Viejo City Hall (Mission Viejo RACES Radio Officer Charley Speelman, WA6RUZ), Placentia—Sierra Vista Elementary School (Don McLaren, KB6FTI), and Santa Ana—Saddleback High School (SART).

FCC Proposes 160-Meter Allocation Changes

The Federal Communications Commission is proposing to change the Amateur Radio Service allocation to the 160-meter band (1800-2000 kHz), reallocating the 1900-2000 kHz segment to the Amateur Radio Service on a primary basis. In the *Notice of Proposed Rulemaking* (ET Docket No. 12-338), released on November 20, 2012, the FCC noted that “the ARRL has identified the 160 meter band and the amateur HF bands as ‘[b]y far, the heaviest-used [Amateur Service] allocations.’”

In 1983, the FCC allocated the 1800-1900 kHz band to the Amateur Service on an exclusive basis and the 1900-2000 kHz band to the Radiolocation Service on a primary basis for federal and non-federal use and to the Amateur Service on a secondary basis. The FCC stated that “[t]he purpose of allocating this band [1900-2000 kHz] to the Radiolocation Service was to provide reaccommodation spectrum for radiolocation users that will have to move out of the 1605-1705 kHz band when AM broadcasting is implemented in that band.” The AM broadcasting proceeding was resolved in 2000, and a review of the FCC’s Universal Licensing System (ULS) database finds that no one is licensed to use this non-federal Radiolocation Service allocation.

Currently, federal use of the 1900-2000 kHz segment is light, with only 10 assignments authorized to operate in this segment. “A single federal assignment authorizes land and mobile stations in the Radiolocation Service to transmit on 1922 kHz using a necessary bandwidth of 600 kHz within a protected radius of 193 kilometers centered in San Diego, California,” the FCC noted in the NPRM. “All other federal assignments in the 1900-2000 kHz band are for unallocated uses, and thus, these assignments operate on an unprotected and non-interference basis.”

The FCC is proposing to amend the US Table of Allocations and remove the federal and non-federal Radiolocation Service allocations from the 1900-2000 kHz band and then raise the secondary Amateur Radio Service allocation to primary status because “there appear to be few (if any) Radiolocation Service stations operating in this band.

FCC Proposes New 135.7-137.8 kHz Ham Band

In the US, the 130-160 kHz portion of the spectrum is allocated to the Fixed Service and the Maritime Mobile Service on a primary basis for both federal and non-federal use. Delegates at WRC-07 allocated 135.7-137.8 kHz to the Amateur Radio Service in all ITU Regions on a secondary basis. Delegates also chose to restrict the use of this low-frequency allocation to those Amateur Radio stations transmitting with a maximum equivalent isotropically radiated power (EIRP) of 1 W, as set forth in RR 5.67A.

Even though there are no non-federal stations in the Fixed Service or Maritime Mobile Service that are licensed to operate at 135.7-137.8 kHz and federal use of this portion of spectrum is light, the FCC noted that electric utilities operate Power Line Carrier (PLC) systems in the 9-490 kHz band for “communications important to the reliability and security of electric service to the public.”

Now that 135.7-137.8 kHz is allocated internationally to the Amateur Radio Service on a secondary basis in all ITU Regions, the FCC has concluded that “it is an appropriate time to re-examine the potential for shared Amateur Service-PLC use of this band.” It stated in the *NPRM* (same *NPRM* for 160-meter allocation changes—see article above) that it is seeking comments on whether the 135.7-137.8 kHz band should be allocated to the Amateur Service on a secondary basis in accordance with RR 5.67A.

“Because PLC systems operating under Section 15.113 of the rules serve important functions, such as tripping protection circuits if a downed power line or other fault is detected in the power grid, we would only consider adding an amateur allocation if we were comfortable that Amateur Radio and utility PLC systems could successfully co-exist in this band,” it stated in the *NPRM*. “We seek comment on the advantages and disadvantages, and other costs and benefits associated with changing our rules. For example, what benefits might accrue to the Amateur Radio community? To what extent do utilities deploy PLC systems on distribution lines in the 9-240 kHz band under our Part 15 rules, and how would those operations be affected were we to add a new secondary Amateur Radio Service allocation in this band? What specific actions would PLC system operators need to take and what are the associated costs?”

The FCC asks if there are steps, such as limiting operating privileges in this frequency band (e.g., to Amateur Extra Class licensees) that would better facilitate amateur use of the band. The FCC seeks comment on the appropriate maximum field strength level and minimum separation distance from PLC systems for secondary Amateur Service in this band.

Watching the Web

Web Sites of Interest to RACES Personnel

Almost All Digital Electronics
<http://aade.com>



Almost All Digital Electronics has an interesting Web site at <http://aade.com>, “dedicated to electronics hobbyists, engineers, and radio amateurs interested in circuit design, homebrew, and kit projects.” The site includes free filter design and analysis software that you can download, and product offerings such as the L/C Meter IIB inductance/capacitance meter, digital frequency displays, fully assembled plug-n-play digital dials, a precision frequency reference (1 Hz to 10 MHz output, switch selectable, with 1 ppm accuracy), and a universal probe to allow digital frequency displays to work with vacuum-tube radios.

The AADE filter design and analysis software for Windows 98 and up is useful for designing Butterworth, Chebyshev, elliptic (Caur), Bessel, Legendre, and linear phase low-pass, high-pass, band-pass, and band-reject filters, as well as coupled resonator band-pass filters and crystal lattice band-pass filters using identical crystals (ideal for amateur construction from surplus or microprocessor crystals). Frequency domain analysis includes power effective gain, power insertion gain, voltage effective gain, voltage insertion gain, current effective gain, current insertion gain, input impedance, output impedance, group delay, phase, and return loss. Time domain analysis includes impulse response, step response, pulse response, and tone pulse response (for band-pass filters). Utilities let you enter a schematic and parts list from a book or magazine for analysis or modification. You can also insert a filter in front of an existing filter or append a filter to the end of an existing filter, to allow design of wideband band-pass filters consisting of low-pass/high-pass combinations. You can specify a Q_u for inductors and get response plots for real-world components.

The L/C Meter IIB hand-held digital inductance/capacitance meter has a four-digit display. Its inductance range is 0.001 μH (1 nH) to 100 μH (most units measure to 150 μH). Its capacitance range is 0.010 pF to 1 μF (most units measure to 1.5 μF). Automatic ranging is featured. Some of its applications include:

- ◆ Measuring inter-winding capacitance of RF transformers or multi-conductor coils
- ◆ Measuring total antenna and feedline capacitance to ground on vehicles or other mounting surfaces as an aid in tuning or matching HF antennas
- ◆ Measuring coaxial cable capacitance between the conductors of the cable for trap construction
- ◆ Measuring commercial HF mobile antenna coil values for future repair or replacement with homebrew high-power coils
- ◆ Determining the capacitance value of a top-hat capacitance loaded antenna to ground for tuning information
- ◆ Determining the capacitive coupling between RF-carrying conductors to help correct feedback problems in receivers or transmitters
- ◆ Determining inductor values for homebrew projects and homebrew capacitors for loop antennas or other antenna projects when the correct parts cannot be found
- ◆ Measuring inner-electrode coupling of RF connectors to determine amount of loss caused by the connector
- ◆ Specialty component matching with the Ready match % mode for either coils or capacitors such as those in building filters

The AADE digital frequency displays are miniature digital frequency counters designed to display the frequency of operation of superheterodyne (with an adjustable IF offset) and direct conversion (without offset) receivers and transmitters. They can also be used as a bench-top frequency counter or built into other test equipment.

The AADE precision frequency reference is assembled and calibrated against a rubidium frequency standard to better than 0.1 ppm (1 Hz to 10 MHz), with long-term accuracy of 1 ppm (1 Hz to 1 MHz). Switch-selectable output frequencies include 1 Hz, 10 Hz, 100 Hz, 1 kHz, 10 kHz, 100 kHz, 1 MHz, and 10 MHz. Output is 0.5 V_{p-p} square wave into 50 ohms.

RACES/MOU News from Around the County

"RACES/MOU News" provides an opportunity to share information from all City & County RACES/ACS units and MOU organizations in Orange County.

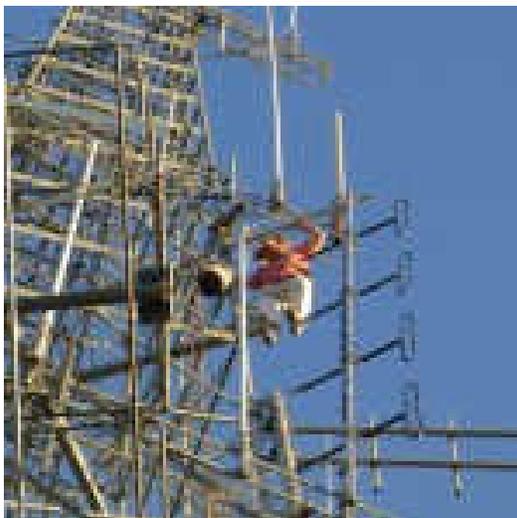
Please send your news to NetControl Editor Ken Bourne, W6HK, at: w6hk@ocraces.org

Fountain Valley RACES

Fountain Valley RACES will participate in the City's Christmas Tree Lighting ceremony on Saturday, December 1, 2012. The unit's Christmas Dinner is on Monday, December 3rd, at 1830. The unit will participate in the Special Olympics on Saturday, December 8th, and Sunday, December 9th.

Huntington Beach RACES

On Tuesday, November 14, 2012, Huntington Beach RACES installed a new Telewave ANT150D6-9 four-bay folded-dipole antenna on their Santiago Peak repeater. The antenna has a 9.1-dBd gain. Roy Lothringer, N6SLD, Bob Tulley, KJ6ISH, and Mike Collis, WA6SVT, helped with the assembly and installation.



Costa Mesa RACES (MESAC)

MESAC's (Mesa Emergency Services Amateur Communications) Christmas Dinner will be on Wednesday, December 19, 2012, at Blair's. There will be no general meeting in December.

Irvine RACES (IDEC)

Irvine Disaster Emergency Communications (IDEC) will have its VikiBrek no-host breakfast meeting on December 8, 2012, at 0800, at Knowlwood, Sand Canyon and Burt. Visitors are welcome.

IDEC's next general meeting is on Thursday, January 24, 2013, at 1900. On the agenda is IDEC business and 50/50 raffle, recognition awards, and swearing in of new members.

Laguna Woods RACES

On October 18, 2012, the Laguna Woods Amateur Radio Club participated in the Great Shakeout. The club provided communications support for the Laguna Woods Village Disaster Preparedness Task Force. At 1018, Net Control, Jim Riedel, K6EEE, put out a call to see how many club members were available for assignment. Once Net Control knew who was available, assignments to the Incident Control Center, various clubhouses, and First Aid Stations were made. Besides Jim, K6EEE, other participating members included Art Welch, K6TX, David St. Clair, KI6CJL, Ernie Senger, W6ETS, Gabi Senger, KG6YWU, Ian Craig, N6RLT, Joe Burkhardt, KBØIG, Lee Krank, K6QAX, Lou Parker, KA6BJO, Mike Epstein, KA6VPG, and Tom Soule, K6ZMS.

Newport Beach RACES

This new call sign for Newport Beach RACES is K6NBR, not N6NBR as incorrectly posted in the November 2012 issue of *NetControl*. The new call sign (K6NBR) is now being used on the VHF and UHF Winlink RMS nodes, and will be used for voice communications in future drills.

December 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3 <i>OCRACES Holiday Dinner</i> <i>No Net</i>	4	5	6	7	8
9	10 <i>Weekly ACS Net</i>	11	12 <i>Comm's & Technology Division Holiday Luncheon</i>	13	14	15
16	17 <i>Weekly ACS Net</i>	18	19	20	21	22
23	24 <i>Christmas Eve</i> <i>No Net</i>	25 <i>Merry Christmas</i>	26	27	28	29
30	31 <i>New Year's Eve</i> <i>No Net</i>					

Upcoming Events:

- **Dec 3:** OCRACES Holiday Dinner, 1830, Katella Grill, 1325 W. Katella Ave., Orange
- **Dec 12:** OCSD Communications & Technology Division Holiday Luncheon, 1130, Eckhoff Facility Service Bays
- **Dec 24:** Christmas Eve: no net
- **Dec 25:** Merry Christmas!
- **Dec 31:** New Year's Eve: no net
- **Jan 1:** Happy New Year
- **Jan 7:** OCRACES Meeting, 1930, 840 N. Eckhoff Street, Suite 104, Orange. D-STAR presentation by Ed Kane, W6ONT
- **Jan 28:** City/County RACES & MOU Meeting, 1915, 840 N. Eckhoff Street, Suite 104, Orange



www.ocraces.org



Mission Statement

County of Orange RACES has made a commitment to provide all Public Safety departments in Orange County with the most efficient response possible to supplement emergency/disaster and routine Public Safety communications events and activities. We will provide the highest level of service using Amateur and Public Safety radio resources coupled with technology, teamwork, safety, and excellence. We will do so in an efficient, professional, and courteous manner, accepting accountability for all actions. We dedicate ourselves to working in partnership with the Public Safety community to professionally excel in the ability to provide emergency communications resources and services.

County of Orange RACES Frequencies

- 10 m: 29.640 MHz output, 29.540 MHz input, 107.2 Hz PL (off the air)
 - 6 m: 52.620 MHz output, 52.120 MHz input, 103.5 Hz PL
 - 2 m: 146.895 MHz output, 146.295 MHz input, 136.5 Hz PL*
 - 2 m: 147.480 MHz simplex
 - 1.25 m: 223.760 MHz output, 222.160 MHz input, 110.9 Hz PL
 - 70 cm: 446.000 MHz simplex
 - 70 cm: 449.100 MHz output, 444.100 MHz input, 110.9 Hz PL (private)
 - 70 cm: 449.180 MHz output, 444.180 MHz input, 107.2 Hz PL (private)
 - 23 cm: Off the air until reprogrammed to new coordinated frequencies
- *Primary Net—Mondays, 1900 hours

RACES Program Manager

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Ken Bourne, W6HK
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Radio Officers (Lieutenants)

Scott Byington, KC6MMF
Harvey Packard, KM6BV
Ralph Sbragia, W6CSP

Assistant Radio Officers (Sergeants)

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County of Orange RACES

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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!



Ken Bourne W6HK Scott Byington KC6MMF Harvey Packard KM6BV Ralph Sbragia W6CSP Delia Kraft KF6UYW Marten Miller KF6ZLQ Robert Stoffel KD6DAQ



Jack Barth AB6VC Jim Carter WB6HAG Chuck Dolan KG6UJC Ernest Fierheller KG6LXT John Bedford KF6PRN Randy Benicky N6PRL



Bill Borg KG6PEX Jim Dorris KC6RFC Nancee Graff N6ZRB Ray Grimes N8RG Walter Kroy KC6HAM Martin La Rocque N6NTH



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