

July 2007



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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# Captain's Corner

*by Ken Bourne, W6HK, Chief Radio Officer*

Everything is going digital...or is it? Radio amateurs, including some OCRACES members, have been using digital modes for quite some time, including packet, APRS, PSK31, Winlink, etc. Even CW is considered to be digital. But what about digitized voice on amateur radio? One such system, D-STAR, allows digitized voice and data communications simultaneously, which could be handy during an emergency. D-STAR is an open protocol, published by JARL in Japan, but Icom is the only manufacturer so far offering equipment with that protocol.

D-STAR radios communicate directly with each other or through a D-STAR repeater. A gateway digitally interfaces the repeaters. A codec converts voice signals to and from digital data streams at 3.6 kb/s on 144 and 440 MHz, with other digital data at 1.2 kb/s. The digital data stream on 1.2 GHz is entirely data at 128 kb/s.

### Digital on HF SSB

Radio amateurs are also using digital voice communications on HF, mostly using AOR "Fast Radio Modems" that connect to existing analog transceivers with no modifications. The advantage on SSB is elimination of the "Donald Duck" effect, especially noticed when an SSB receiver is not exactly on frequency. The AOR modems use the open G5GUO protocol, which might eventually be offered by other manufacturers. The technology uses the same audio frequencies (300 Hz to 2500 Hz) as microphone audio to transmit digi-

tal SSB voice signals. AOR's ARD9800 can also be used for digital slow-scan TV and data transmissions, using an optional memory board.

Digitizing a voice signal is usually clocked at at least twice the highest frequency desired for reproduction. Sampling is at one sample per clock cycle, or encoding can be at multiple samples per cycle using phase-shift techniques, such as with quadrature sampling. Narrowing the passband of the receiver to avoid QRM or reduce noise will degrade frequency response and intelligibility. In the AOR system, the digital bandwidth is no more than the analog SSB bandwidth.

### Don't Ignore Duty Cycle

Duty cycle is a factor that should not be ignored with digital voice (as well as with any other digital mode). The transmitter's final amplifier might not be designed to support digital voice at full power output; output may need to be reduced to half the normal SSB output. That may still be adequate for reliable communications, since digital systems are superior at overcoming some noise and interference.

Digital systems, however, depend on a minimal SNR (signal-to-noise ratio) threshold. Under good signal-level conditions, digitized systems are superior to analog, but during fades (common on HF), digitized signals will completely disappear, but analog signals might still be readable.

**The Next  
OCRACES  
Meeting is**

**July 2, 2007  
1930 Hours**

**840 N. Eckhoff St.,  
Suite 104, Orange**

**Field Day Recap and  
Events Discussion**



Orange County Sheriff's Department  
Michael S. Carona, Sheriff-Coroner

## Be Prepared for Fire Season Activation

Due to drought conditions, this fire season may be the worst in recent Orange County history. OCRACES members have been trained for Severe Fire Weather Patrol duties, and should have their vehicles, radios, and support equipment ready for an activation at any time.

OCSD/Communications Director Robert Stoffel, KD6DAQ, recently e-mailed to all members a fire season weather outlook prepared by OCFA Fire Captain Pete Curran and Wildland Fire Defense Specialist George Ewan. Be sure to read it thoroughly.

OCFA's outlook reminds us that Orange County has the potential to experience large wildland fire activity every year as developments continue to push into the canyons and foothills, increasing the size of our urban-wildland interface. This year, however, critical fuel conditions have already caused unseasonable fire activity and increased the potential for resource drawdown. Every indicator the fire service uses to assess wildland fire potential and fire behavior is at or above critical levels for this time of year. Given these conditions, even the smallest "tailboard" or roadside fire could quickly exhibit extreme burning conditions and therefore must not be underestimated and should be approached with extreme caution.

The OCFA document points out that wildfire agencies throughout the state have made dire predictions of the coming fire season based on the combination of lack of rainfall and critical fuel conditions caused by the ongoing drought, freeze kill, and bark beetle tree mortality. Unseasonable wildland fire activity has been noted as early as February by many agencies including our own Highway 241 Fire which occurred in early March. In addition, fire agencies throughout the state have reported very active burning conditions and fire potential indicators that are extreme to historical for this time period.

Regarding weather, the OCFA document notes that warm and dry conditions dominated much of the month of May despite a persistent, deep marine layer present towards the end of the month. Near record-breaking heat occurred in mid-May as a result of offshore flow that brought temperatures in the nineties with single-digit humidity. Long range computer models suggested stronger than usual ridging during the months of June, July, and August, indicating above-normal temperatures for this period.

Many areas in Southern California are in "extreme drought." The OCFA document points out that Orange County has received just 2.20 inches of rain since the start of the season (July 1, 2006), while the average seasonal rainfall is 12.76 inches. As a result, fuels are exceptionally dry across much of OCFA's wildland interface area. While the persistent marine layer may moderate fine fuel moistures near the immediate coast, this will quickly be lost after a few days of full sunlight and warming temperatures.

### Orange County Rainfall

Location	2007	2006	Average
John Wayne Airport	2.19 inches	7.62 inches	12.82 inches
Villa Park Dam	3.78 inches	10.86 inches	15.58 inches
Fremont Canyon	2.51 inches	8.67 inches	14.01 inches
Bell Canyon	4.05 inches	10.02 inches	15.69 inches

The OCFA document says live fuel moisture measurements indicate that most areas in Southern California, with the exception of along the immediate coastline, are at or near end-of-summer levels. Areas of Los Angeles, Santa Barbara, and Riverside counties have documented record low fuel moistures for May and June. In addition to the exceptionally dry season, a winter freeze across the lower elevations has caused brush dieback especially in and near the urban-wildland interface. This is clearly obvious in many areas adjacent to the 241 Tollroad and along Santiago Canyon Road. This, combined with drought stress and bug kill, has led to the extremely dry fuel conditions throughout the region.

Robert urges all RACES members to exercise due vigilance when working in the Severe Fire Weather Patrol environment. He asks all RACES members to review the Severe Fire Weather Patrol Guide, which is our "SOP" for this activity, and to be ready for an activation. "It looks like we may be called upon to perform this vital service more than in the past, based on the predictions."

# OCRACES Field Day 2007 Recap

## by Ralph Sbragia, W6CSP, Radio Officer

Field Day 2007 took place Saturday, June 23, through Sunday, June 24, 2007. OCRACES operated both the RACES van and the W6CSP trailer from the highest elevation point in Craig Regional Park in Fullerton. Our primary mission was to keep two operating stations on the air throughout the 24 hours of the event. However, we were short of operators for the RACES van during the early Sunday morning hours.

One aspect of this mission was the use of two High Sierra screwdriver antennas in close proximity while on different bands. This went very well and no interference or other operating difficulties were reported during the periods that both screwdrivers were in operation.

Among the secondary missions previously published, OCRACES succeeded in:

- ◆ Hosting as many visitors and guest as possible throughout the weekend
- ◆ Having an enjoyable and well-attended picnic supper on Saturday of the event

OCRACES members who participated in Field Day included Capt. Ken Bourne, W6HK (whose call sign we used for the Field Day station), Lt. Scott Byington, KC6MMF, Lt. Harvey Packard, KM6BV, Tony Sanchez, AE6QT (who coordinated the excellent Saturday Pot Luck part of our overnight crew), Tom Tracey, KC6FIC, Chuck Dolan, KG6UJC, Lt. Joe Selikov, KB6EID, Sgt. Ernest Fierheller, KG6LXT, Walter Kroy, KC6HAM (part of our overnight crew), Sgt. Jack Barth, AB6VC, Bill Borg, KG6PEX, Ray Grimes, N8RG, Martin LaRocque, N6NTH, and Lt. Ralph Sbragia, W6CSP.



Lt. Ralph Sbragia provided his well-equipped trailer as one of the Field Day stations

points, we are claiming 1,302 total points, 432 from the 216 contacts we made over 6 bands from 160 meters up to 23 cm, and 870 bonus points. This is a somewhat smaller number of QSOs than last year (242) or in 2005 (278), but band conditions were not favorable for our moderate power and omnidirectional antenna configurations. Specifically, I copied what seemed like significant amounts of strong second-hop signals, but could not make contact due to our signals being out powered by stations halfway in between. At our next Monday meeting (July 2nd), I would like to discuss band conditions and operations with all those members who operated.



Preparing to raise an inverted-L antenna at Field Day are (left to right) OCRACES Lt. Ralph Sbragia, W6CSP, Sgt. Ernest Fierheller, KG6LXT, Bill Borg, KG6PEX, Lt. Joe Selikov, KB6EID, Placentia RACES President John McCauley, KD6PGC, and OCRACES Member Chuck Dolan, KG6UJC

We were joined by six members of Placentia RACES as part of a mutual-aid exercise, including President John McCauley, KD6PGC, Kevin Briley, KG6IIS, Mark Garrett, KG6PGC, Allen Kidd, KI6AAE, George Oelkers, W6QOL, and Clarke Siegmeyer, KD6GYK. Our thanks go to them for their assistance.

Also attending were Carol Bourne, N6YL, Richie Grimes, W6RYS, Giovanni Sbragia, and, from OCS/Communications, David Corsiglia, WA6TWF, Brad Russo, KB6GPM, and Division Director Robert Stoffel, KD6DAQ. Captain Christine Murray, OCS Operations Support Division, graciously brought doughnuts to our site Sunday morning. We were also visited by ARRL Southwestern Division Director Richard Norton, N6AA.

Lastly, with respect to ARRL contest



OCRACES van at Field Day site

## OCRACES Exhibits Van at EMS Tailgate

County of Orange RACES exhibited its emergency communications response vehicle at the Fifth Annual EMS Tailgate Celebration at Angel Stadium on Saturday, June 2, 2007. The event was held by Orange County Emergency Medical Services (OCEMS), Health Disaster Management / Orange County Health Care Agency. Emergency vehicles from several agencies were on display at the event. OCRACES members at this event included Chief Radio Officer Ken Bourne, W6HK, Radio Officers Harvey Packard, KM6BV, and Ralph Sbragia, W6CSP, and Member Chuck Dolan, KG6UJC. Also present was OCSD Emergency Communications Coordinator Marten Miller, KF6ZLQ, who was honored later in the stadium because of the "Exceptional Performance Teamwork in EMS" award that he had received on May 23, 2007, for his Orange County Communications work. Next to the OCRACES van was an exhibit by the Hospital Disaster Support Communications System (HDSCS).



Showing OCRACES emergency communications response vehicle at EMS Tailgate Celebration are (left to right) Chuck Dolan, KG6UJC, Lt. Harvey Packard, KM6BV, Lt. Ralph Sbragia, W6CSP, and OCSD Emergency Communications Coordinator Marten Miller, KF6ZLQ

## Next OCRACES Meeting: July 2, 2007

The next County of Orange RACES meeting will be on Monday, July 2, 2007, at 7:30 PM, at OCSD/Communications, 840 N. Eckhoff Street, Suite 104, in Oranges. We will have a debriefing of our Field Day activities, a discussion of several upcoming activities and exercises, and a viewing of the second half of a video documentary on "Civil Defense: The War at Home."

## OCRACES to Exhibit at OC Fair on July 31st

County of Orange RACES will exhibit its capabilities on July 31, 2007, from 5:00 PM until 11:00 PM, at the Ham Radio Booth at the Orange County Fair. This will be an excellent opportunity to demonstrate to the public how radio amateurs provide communications during times of disaster.

The Ham Radio Booth will be open every day (July 13th through August 5th) and during all hours of the Fair. City RACES units and other amateur radio organizations are scheduled to exhibit. Besides demonstrating emergency communications capabilities, all groups will explain the many aspects of amateur radio to the public. We especially want to introduce amateur radio to young people, and to recruit new RACES members from the radio amateurs who visit the booth.

Booth duty schedules will be assigned at the July 2nd OCRACES meeting.

# Watching The Web

## Web Sites of Interest to RACES Personnel by Ralph Sbragia, W6CSP, Radio Officer

National Hazards Center  
<http://www.colorado.edu/hazards/>



Natural Hazards can, and do, result in Natural Phenomena, sometimes with disastrous consequences. It is the mission of the Natural Hazards Center at the University of Colorado at Boulder to “advance and communicate knowledge on hazards mitigation and disaster preparedness, response, and recovery. Using an all-hazards and interdisciplinary framework, the Center fosters information sharing and integration of activities among researchers, practitioners, and policy makers from around the world; supports and conducts research; and provides educational opportunities for the next generation of hazards scholars and professionals.”

As the Center is publicly funded, many of its publications are available free of charge either directly on the Internet or via the U.S. mail. Among the periodicals available is *Disaster Research*, a bi-weekly electronic newsletter, and *Natural Hazards Observer*, a bi-monthly print newsletter. In the January *Natural Hazards Observer* there was a particularly interesting point/counter-point set of articles on the aspects of looting after natural disasters.

Another interesting set of articles, although not usually about disaster communications, are the *Quick Response Reports*. The Center funds social science researchers who go into disaster areas immediately after a disaster and conduct disaster response research of various types. I have not yet had an opportunity to look over the entire catalog or research papers, but several look germane to our OCRACES mission.

The longer I spend at this site, the more I find to read and study. I believe we could all find something to learn at Hazards Online.

## Emergency Management Plan Development

UCI Irvine Extension is introducing a new course in the “Emergency Management and Disaster Recovery” series, on “Emergency Management Plan Development.” The course will be offered on August 10, 11 and 24, 25, from 8:30 AM to 5:00 PM.

In this course, learn about the tools and techniques used to enhance all-hazard emergency plans. Gain the knowledge to design a hazard and threat analysis, identify key emergency management components, use SEMS/NIMS as guides to write effective emergency plans...and much more!

The instructors, Eileen Salmon and Linda Bogue, are emergency management coordinators for the City of Irvine and UC Irvine, respectively.

To learn more or enroll, call (949) 824-6538. Also plan for fall quarter course offerings on “Emergency Management—Training and Exercises” and “Principles of Emergency Management.”

# RACES News from Around the County

**"RACES News" provides an opportunity to share information from all City & County RACES organizations in Orange County. Please send your news to: w6hk@ocraces.org**

## Costa Mesa

City of Costa Mesa Emergency Service Amateur Communications (MESAC/Costa Mesa RACES) has changed their 2-meter repeater PL to 100 Hz.

## Huntington Beach

Huntington Beach RACES operated Field Day on September 23-24, 2007, at the beach, as they have done in years past. They operated as "5A" using a few stations and a generator. HBRACES claims they are not serious contesters, but are primarily interested in operating under simulated emergency conditions. Tim Sawyer, WD6AWP, says, "Field Day provides that opportunity and a chance for an eyeball QSO with RACES members and the public."

## Newport Beach

Gary Standard, K6GSX, is the new Newport Beach RACES Radio Officer. He succeeds Ed Karagozian, K6JGN, who served many years with distinction in that position, and who will continue serving as Assistant Radio Officer.

Newport Beach RACES participated in Field Day on September 23rd at their usual location, Mariners Park, from 0900 to 1500 hours.

## Fountain Valley

Fountain Valley RACES Chief Radio Officer announces that the next monthly meeting is on Saturday, July 7, 2007, at 0800, at FVPD, 10200 Slater.

## Orange County SKYWARN

Orange County SKYWARN Coordinator Mike McLaughlin, KJ6EQ, reports that the Assistant Coordinators are now Richard Olson, KR6BA, and Manny Vizinho, KG6IQL.

## Orange County Amateur Radio Club

Bob Grimmick, N6OX, will talk on the XT2C DXpedition to Burkina Faso at the next Orange County Amateur Radio Club meeting on Friday, July 20, 2007, at 1900 hours, at the American Red Cross (George M. Chitty Building), 600 Park-center Drive, in Santa Ana. Hear about operating at Ouagadougou and the adventures of the expedition.

## OCRACES to Exhibit at HAMCON on Sept. 8th

The next ARRL Southwestern Division Convention, called HAMCON 2007, will occur on September 7-9, 2007, at the Marriott Hotel, 3635 Fashion Way, in Torrance. OCRACES will have a table in the hall leading to the exhibit area, and will also display our emergency communications response vehicle outside the hotel.

We urge all members to be present at least on Saturday, September 8th, to explain our operations to convention visitors, and to recruit new members for OCRACES.

We also invite members of City RACES units and all amateur radio emergency communications groups in Orange County to spend time at our table to hand out literature and to promote their activities.

Check the HAMCON Web site at <http://www.hamcon.org> for more information about the convention, and to fill out the registration form.

# July 2007

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2 <i>Monthly Meeting &amp; Weekly Net</i>	3	4 <i>Independence Day</i>	5	6	7
8	9 <i>Weekly Net</i>	10	11	12	13	14 <i>RACES Breakfast</i>
15	16 <i>Weekly Net</i>	17	18	19 <i>CPRA Meeting</i>	20	21
22	23 <i>Weekly Net</i>	24	25	26	27	28 <i>Southwest ACS Meeting</i>
29	30 <i>Weekly Net</i>	31 <i>OC Fair Booth Duty 5-11 PM</i>				

## Upcoming Events:

- **Jul 2:** OCRACES monthly meeting, 7:30 PM, Eckhoff St.
- **Jul 14:** RACES Breakfast
- **Jul 28:** Southwest ACS Meeting, Riverside, 9 AM
- **Jul 31:** Orange County Fair booth duty, 5-11 PM
- **Sep 7-9:** HAMCON
- **Sep 15-16:** Citizen Corps Volunteer Mutual Aid Drill
- **Oct 6:** City/County Drill
- **Oct. 24:** SONGS Siren Drill



[www.ocraces.org](http://www.ocraces.org)

## County of Orange RACES Frequencies:

- 6m: 52.62 MHz output, 52.12 MHz input, 103.5 PL
- 2m: 146.895 MHz output, 146.295 MHz input, 136.5 PL \*
- 23cm: 1282.025 MHz output, 1270.025 MHz input, 88.5 PL
- 1.25m: 223.76 MHz output, 222.16 MHz input, 110.9 PL
- 70 cm: 449.180 MHz output, 444.180 MHz input, 107.2 PL

\* Primary Net - Mondays, 1900 Hours

### Program Coordinator

Marten Miller, KF6ZLQ  
(714) 704-7917

### Radio Officers

Scott Byington, KC6MMF  
Harvey Packard, KM6BV  
Joe Selikov, KB6EID  
Ralph Sbragia, W6CSP

### Chief Radio Officer

Ken Bourne, W6HK  
(714) 997-0073

### Assistant Radio Officers

Jack Barth, AB6VC  
Jim Carter, WB6HAG  
Ernest Fierheller, KG6LXT

### County of Orange RACES

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Orange, CA 92868-1021

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## 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

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It's Where It's @!

Questions or Comments?  
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**“W6KRW ...  
Serving  
Orange County”**

## Meet your County of Orange RACES Members!



Ken Bourne  
W6HK



Scott Byington  
KC6MMF



Harvey Packard  
KM6BV



Ralph Sbragia  
W6CSP



Joe Selikov  
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KG6LXT



Randy Benicky  
N6PRL



Bill Borg  
KG6PEX



Chuck Dolan  
KG6UJC



Nancee Graff  
N6ZRB



Ray Grimes  
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Walter Ruy  
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Martin La Rocque  
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John Roberts  
W6JOR



Tony Sanchez  
AE6QT



Steve Sobodos  
KN6UX



Tom Stroud  
N6FDZ



Tom Tracey  
KC6FIC