

October 2011



County of Orange RACES

NetControl

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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Captain's Corner

by RACES Capt. Ken Bourne, W6HK, Chief Radio Officer

Are We Obsolete?

The technology used in the design of today's amateur radio equipment, or even in public-safety equipment used in police and fire communications systems, pales in comparison to the technology of smartphones and tablets.

One of the latest advances for smartphones is location-based services (LBS), which provides tracking of a smartphone user's exact location. Store owners, for example, can locate customers when they approach a store and send them a sales message. The latest LBS version 2.0 integrates SMS (Short Message Service) and MMS (Multimedia Messaging Service) geofencing and geo-location, which would enable the store to transmit a customized and targeted message to any customer who is within a specified distance of the store or the location of a particular event. This happens without any action by the customer, other than registering for the program in the first place. The phone does not require Internet connectivity or GPS, and there are no geographic limitations.

As David Sumner, K1ZZ, ARRL Chief Executive Officer, said in September 2011 *QST*, "When compared to smartphones and tablets, most amateur radio equipment looks pretty crude and its capabilities may seem rather limited. Public-safety communicators are in the same boat with us. A young police officer who manages his or her personal life by smartphone is likely to be underwhelmed by the communications gear he or she gets to use on the job. Most

emergency 911 call centers cannot receive photos and videos—images that literally could save lives—from mobile phones."

In RACES, we might think that we have a leg up on most public-safety systems, by being able to send photos and videos via SSTV and ATV. But look at our typical ATV systems. They are heavy and bulky—not like comparatively tiny smartphones. Our APRS systems and some public-safety AVL (automatic vehicle location) systems don't provide the sophistication in tracking technology offered by smartphones in an LBS system.

Public safety is increasing its reliance on broadband networks, with some projections that such networks (in the 700-MHz D Block spectrum) will completely replace land-mobile radios with smartphone-like products within 10 to 25 years. Nevertheless, advanced networks serving smartphones are subject to failure or overload, as actually happened during the recent power outage on September 8th and 9th. Such failures could last for days during a major disaster, such as a devastating earthquake.

We RACES members might not have ham equipment as sophisticated or as flexible as smartphones, but when broadband networks fail (as they will, at the worst possible time), we must be ready when our agency calls us. That means we must demonstrate our capabilities at disaster preparedness expos. We must constantly train on setting up and operating our equipment. We must embrace new technology, but we should not forget how to use the simple stuff—a radio, a battery, and an antenna.

The Next
OCRACES
Meeting is

October 3, 2011
1930 Hours

840 N. Eckhoff Street,
Suite 104, Orange

Review of October 1st
Drills and of Remaining
Work To Be Done on EOC
RACES Antennas



Orange County Sheriff's Department
Communications & Technology Division

City/County RACES & MOU Drill: October 1st

This City/County RACES & MOU ACS exercise is scheduled for Saturday, October 1, 2011, from 9:00 AM until 11:00 AM. County of Orange RACES, City RACES organizations, and MOU organizations such as the Hospital Disaster Support Communications System (HDSCS), Red Cross Communications, and SKYWARN traditionally participate by using radio equipment from their Emergency Operations Centers (EOC). This drill will be conducted as an ACS exercise, so all designated participants will be able to communicate directly with each other regardless of whether or not an MOU exists. Orange County RACES will be the coordinating agency for this ACS exercise.

Any official messages we send during an EOC activation would be generated and approved by designated Emergency Management personnel in the EOC. Accordingly, in this exercise the Emergency Manager or designee from each participating City/agency will prepare and/or approve several messages for their RACES/ACS personnel to send during the exercise. Considering the scenario for this exercise, messages must reflect the possible needs public safety might have, such as structure protection, firefighting, traffic gridlock, road closures, evacuations, rescue operations, shelter needs, potable water procurement, hospital damage, etc. Other messages should include any resources a City can offer such as care & shelter facilities or police/fire/public works personnel and equipment. Having these messages already prepared will help expedite the flow of radio traffic during the two-hour exercise. The FEMA ICS 213 General Message Form should be utilized by all participants in this drill, and will help to ensure common radio traffic passing techniques. The form may be downloaded from the County of Orange RACES web page at <http://www.ocraces.org>.

The scenario for this exercise involves several large natural gas transmission lines located throughout Orange County that have exploded nearly simultaneously at 9:00 AM on Saturday, October 1, 2011. Although the cause of these explosions is not yet known, the result has been widespread destruction from the initial explosion and the subsequent fires fanned by Santa Ana winds. Additionally, many of the explosions have also caused major disruptions to the distribution of electrical power and water. Broken water mains have been reported in various locations causing localized flooding and complicating firefighting efforts as water pressure is unavailable in some locations. There have also been reports of widespread power outages likely caused by some of the explosions. The compounded affect of the explosions, fires, power outages and flooding have made travel into and out of the affected areas very difficult. The OA EOC has been activated and is attempting to gather information from the Cities as to the location of each incident and initial damage estimates.

Three exercises will occur simultaneously during the two-hour exercise period. Exercise A is a general message blitz, Exercise B is simplex relay, and Exercise C is ATV/SSTV (optional). Agencies are welcome to add elements to their own internal participation, such as deploying personnel to field locations to conduct "damage assessment," or to locate simplex relay points, for example.

The primary focus of this exercise will be communicating by voice between City EOCs as well as with MOU agencies and the County EOC by sending and receiving general messages in accordance with the communications plan and participant expectations. In addition to sending outgoing message traffic, each agency must have someone monitoring their primary channel for incoming message traffic. Frequencies and expectations are in the plan that was e-mailed to all City and MOU officers.

Exercise B will take place concurrent with Exercise A. Exercise B is a simplex voice relay in which a general message will be sent out from OCRACES to selected City RACES EOCs. Each of those Cities will then resend the message to a pre-designated neighboring City or MOU agency. This process will continue until the last Cities receive the message and resend it back to OCRACES. The message that OCRACES receives from the final four Cities should be an exact replica of the message that OCRACES originated. This portion of the exercise will only utilize simplex channels and each City/MOU agency will forward the message to the next City/MOU agency via the receiving agency's simplex frequency and in accordance with the exercise plan. All participating agencies will be divided between two to four "nets". The net assignments will be published once agency participation has been determined. The first listed agency in each net will receive the original message from OCRACES and pass it along according to the communications plan and message relay net assignments that will be outlined in the final plan. If an agency is unable to make contact with the next agency in its net, it should skip that agency and make contact with the next listed agency, then inform OCRACES regarding the agency it was not able to contact.

Cities participating in this exercise will be challenged to conduct their SSTV/ATV operations without OCRACES acting as net control. OCRACES will not be involved in the SSTV/ATV portion of this exercise. Cities should conduct their activities on the designated frequencies.

Citizen Preparedness Exercise: October 1st

Orange County California Citizen Corps Council (OCCCCC) is holding a CERT drill on October 1, 2011 at Beckman High School, 3588 Bryan, in Irvine, from 10:00 AM until 3:00 PM. OCSD Emergency Management advises that we should continue with our City/County RACES & MOU drill that same day, although some personnel from OCRACES and City RACES units will be needed at the Citizen Preparedness Exercise. The scenario for the CERT drill is flooding. OCRACES will supply instructors for 30-minute portable radio training sessions (classroom and practical applications). The radios will be pulled from a cache of CERT Mutual Aid Program (CMAP) Icom CS-F14 VHF radios programmed for the five MURS (Multi-Use Radio Service) frequencies (151.820 MHz, 151.880 MHz, 151.940 MHz, 154.570 MHz, and 154.500 MHz). Four RACES communicators are needed for the outside portion of the exercise. This will include one communicator for each of three exercise locations (search & rescue, damage assessment, and triage) and an additional net control operator. They also plan to communicate with OCRACES at the Orange County EOC, where we will be conducting the City/County RACES & MOU drill from 9:00 AM until 11:00 AM.

Next OCRACES Meeting: October 3rd

The next OCRACES meeting is on Monday, October 3, 2011, at 7:30 PM, at 840 N. Eckhoff Street, Suite 104, in Orange. At this meeting we will review our participation in the October 1st City/County RACES & MOU drill and the Citizen Preparedness Exercise. We will also make plans for our next EOC RACES antenna party and discuss improvements to the EOC RACES Room, now that it has been cleared of the charging cache of 800-MHz HTs.

Work Begins on EOC RACES Antennas

An EOC RACES antenna work party was held on Wednesday, September 21, 2011. The 10-m/6-m/2-m antenna was removed and replaced with a 2-m/70-cm dual-band antenna for RACES Room Position 1. A possibly faulty stub or duplexer still needs to be located and removed for this position.

Some of the remaining work includes installing a Hustler 220-MHz antenna for Position 2, 1.2-GHz and dual-band antennas for D-STAR transceivers in Position 5, dual-band antennas for Positions 2, 4, and 6, a 10-m Cushcraft Ringo Ranger and a Diamond V-2000A 6-m/2-m/70-cm antenna for Position 3, and an M2 2-m horizontal dual loop antenna for the Elecraft K3 position. (The K3 has a module for operating all modes on 2 meters.) We will also replace the Hy-Gain DX-88 HF antenna with a new DX-88 plus 160-meter add-on kit. A radial kit also needs to be procured, to replace the radials that have been snipped off.

The next antenna party will occur after the October 1st drills have been completed.



Applicant Hannah Kilbourne, KJ6LDW, Brian Lettieri, KI6VPF, John Bedford, KF6PRN, and John Roberts, W6JOR (left to right) on EOC roof during antenna work party. Ken Bourne, W6HK, and Chuck Dolan, KG6UJC, also participated.

OCRACES to Exhibit Van at OCFA Open House

OCRACES will exhibit its emergency communications response vehicle at the Orange County Fire Authority 6th Annual Open House on Saturday, October 8, 2011, from 10:00 AM to 3:00 PM. Setup will be completed at 9:00 AM. The Open House is at OCFA's Regional Fire Operations & Training Center, 1 Fire Authority Road (intersection of Jambooree and Tustin Ranch Road), in Irvine.

5k Run/Walk Health and Safety Expo: Oct. 8th

On Saturday, October 8, 2011, Crime Survivors, Inc., is hosting their annual Survive & Thrive Run/Walk Health and Safety Expo at the Orange County Sheriff's Regional Training Academy, 15991 Armstrong Avenue, in Tustin. Special guests include Orange County Sheriff Sandra Hutchens, Los Angeles County Sheriff Lee Baca, and Los Angeles Police Chief Charlie Beck. Registration begins at 7:00 AM, and the Health and Safety Expo will run until noon, with more than 110 vendors, including American Red Cross, Irvine Police Department, Orange County Rescue Mission, OCSO, Orange County Sheriff's Museum & Education Center (with their 1962 Chrysler Newport), Santa Ana Police Department, Tustin Police Department, Westminster Police Department, etc.

This event would be excellent for exhibiting the OCRACES van. However, we are already committed to the OCFA Open House the same day (see previous article). OCRACES members are urged to spend time at both events.

OCRACES Shows Van at Irvine Expo

County of Orange RACES exhibited its emergency communications response vehicle at the Emergency Preparedness Expo in Irvine on Saturday, September 17, 2011. The event was at the LDS Church, 23 Lake Road. Besides OCRACES, OCSO also exhibited its Search & Rescue Reserve Unit. Other exhibitors included Irvine RACES (IDEC), Laguna Beach RACES (LBECT), Orange County Fire Authority, and many more.



Representing OCRACES at the Irvine Preparedness Expo were (left to right) Brian Lettieri, KI6VPF, Applicant Hannah Kilbourne, KJ6LDW, RACES Sgt. Chuck Dolan, KG6UJC, John Bedford, KF6PRN, and RACES Capt. Ken Bourne, W6HK.

OCRACES Van Exhibited at HAMCON

RACES Sgt. Chuck Dolan drove the OCRACES van to HAMCON (ARRL Southwestern Division Convention) in Torrance on Saturday, September 10, 2011. As he pulled into the parking spot, he noticed the left rear brake had seized, and the van had to be towed away later. We are thankful that Chuck made it safely to HAMCON. Other RACES personnel at HAMCON included Capt. Ken Bourne, W6HK, Lt. Scott Byington, KC6MMF, and Kenan Reilly, KR6J.



Kenan Reilly, KR6J, Communications & Technology Director Robert Stoffel, KD6DAQ, and Chuck Dolan, KG6UJC.



Because of left-rear brake failure, OCRACES van is towed away from HAMCON in Torrance.

Watching the Web

Web Sites of Interest to RACES Personnel

WiNRADiO Excalibur Pro
http://hintlink.com/power_density.htm



This Web site describes the WiNRADiO WR-G33DDC Excalibur Pro, a direct-sampling, software-defined, short-wave receiver covering 9 kHz to 29.995 MHz. It includes a real-time 50-MHz-wide spectrum analyzer and 4-MHz-wide instantaneous bandwidth available for recording, demodulation, and further digital processing.

This product is an advanced version of the WR-G31DDC receiver, offering additional features and improvements, such as: 4-MHz instantaneous processing bandwidth; low-noise preamplifier; configurable preselection filters; filter bandwidth adjustable down to 1 Hz; 0.5 ppm frequency stability; test and measurement functions; and pause function.

The receiver's performance results from its direct-sampling, digital down-conversion architecture and other advanced design, resulting in a high IP3, wide dynamic range, high sensitivity, and accurate tuning. The entire 4-MHz DDC (digitally down-converted) bandwidth is available for recording and demodulation. Three demodulators allow the simultaneous reception of three signal frequencies within the 4-MHz bandwidth.

Features include: 9 kHz to 49.995 MHz continuous frequency range; direct sampling; digital down conversion; 16-bit 100 MSPS A/D converter; 50-MHz-wide, real-time spectrum analyzer; 4-MHz recording and processing bandwidth; continuously adjustable filter bandwidth down to 1 Hz; three parallel demodulator channels; pause function; waterfall display functions; audio spectrum analyzer; audio and IF recording and playback; recording with pre-buffering; EIBI, HFCC, and user frequency databases support; very high IP3 (+31 dBm); excellent sensitivity (0.20 μ V SSB, 0.10 μ V CW); excellent dynamic range (107 dB); excellent frequency stability (0.5 ppm); selectable medium-wave filter; user-configurable preselector; selectable low-noise preamplifier; test and measurement functions; and USB 2.0 interface.

The receiver's front end is equipped with an ultra-high-linearity amplifier, which results in exceptional strong-signal performance. A user-selectable preselector operates in fully automatic or user-configurable mode. As many as 119 different filter combinations can be constructed by the user (91 bandpass, 14 low-pass, and 14 high-pass). The front end employs 34 subminiature and electromechanical relays (rather than distortion-prone semiconductor switches) to ensure high dynamic range.

A user-selectable low-noise preamplifier provides additional sensitivity for the receiver to be able to extract even the weakest signals from noise. An advanced dithering technique eliminates spurious signals without significantly increasing the receiver's noise floor. The 16-bit 100 MSPS analog-to-digital converter provides exceptional performance over an extremely wide range of signals.

OCRACES Activates for Power Outage

OCRACES was activated for the power outage that occurred on September 8, 2011. OCSD Communications & Technology Division Director Robert Stoffel, KD6DAQ, was alerted to the severity of the situation by RACES Lt. Ralph Sbragia, W6CSP, who had been informed of Metrolink delays in South County. Robert then conferred with OCSD Emergency Communications Manager Marten Miller, KF6ZLQ, and checked with OCSD Emergency Management, which was going to activate the Orange County EOC to Level 2. Marten informed RACES Capt. Ken Bourne, W6HK, that Emergency Management requested a RACES activation. Control One paged OCRACES members at 1648 hours. Ken reported to the EOC Command Center at 1725 hours, within minutes after the EOC was activated. Ken was relieved by Brian Lettieri, KI6VPP, at about 2100 hours. Jim Dorris, KC6RFC, who passed background and became an OCRACES member on September 7th, relieved Brian at 0100 on September 9th, and remained at the EOC until 0400, when the EOC was deactivated. RACES Lt. Harvey Packard was prepared to relieve Jim at 0500, if the activation had gone longer. Meanwhile, Wayne Barringer, KB6UJW, drove throughout South County and transmitted power-outage and traffic reports to OCRACES, which were then relayed to the EOC Command Center.

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**

County of Orange RACES

OCRACES is pleased to welcome Jim Dorris, KC6RFC, as our newest member. Jim passed background on September 7, 2011. He responded to the Orange County EOC at 0100 on September 7th for the power-outage activation. That's dedication!

Jim has been a licensed radio amateur since 1989. He met his wife Nancee, N6ZRB (OCRACES member), on the 2-meter Catalina repeater in 1991. He upgraded to General in 1992 so he could stay in contact with Nancee during her DXpedition to the Caribbean. They married in 1994.

Jim worked as a heavy equipment mechanic repairing drilling rigs for almost 10 years. During the last 25 years he worked in Information Technology, primarily in networking and telecommunications. He is the manager of network services at Pacific Sunwear, where he has worked for 12 years.

Jim has a Bachelor's degree in Information Technology from the University of Phoenix, and is enrolled in the UoP Master of Information Technology degree program.

Hospital Disaster Support Communications System (HDSCS)

At 0600 on September 4, 2011, approximately 15,000 runners set out on the sixth annual Disneyland Half Marathon, a fundraiser to support City of Anaheim community service projects. The St. Joseph Health System, a sponsor of the event, was up to the challenge of taking care of the runners as the event's primary medical provider. For the fifth year, HDSCS radio operators in distinctive blue vests provided communications for all of the half-marathon medical teams.

The 2011 half-marathon course began near the Disneyland Hotel, passed through portions of the Disneyland Magic Kingdom, then out onto the streets of Anaheim to Anaheim Stadium, where it went along the field, past home plate. Runners went back via other city streets to the finish, after going through Disney California Adventure. HDSCS placed dedicated communicators at each of the four medical tents along the

course, plus communicators at seven water stations, the Disneyland Command Center, the finish line, in the main medical tent after the finish, and in the family reunion tent. Two HDSCS communicators on bicycles roamed the course. HDSCS "shadowed" two of the key St. Joseph Health System leaders to provide immediate communications for them. There was also an HDSCS operator atop the main Disneyland parking structure to serve as a Net Control and to relay messages as necessary.

Throughout the race, the Command Center at Disneyland Central First Aid was constantly in touch with every medical location and all key personnel. Every message was quickly handled, including "runner down" and "runner needs assistance" calls. There were numerous requests for replenishment of medical supplies.

Meanwhile, HDSCS communicators at the finish line, main medical tent, and reunion area were very busy. Fortunately, this year's race weather was not excessively hot. The sun didn't poke through the overcast until 0900. Nevertheless, with so many inexperienced runners, the 30-bed medical unit was quite active.

When it was all over and everyone had headed home for a nap, it was clear that the Amateur Radio link was a major contributor to the St. Joseph Medical Teams being able to provide excellent care.

HDSCS member communicators for the 2011 half-marathon were (in alphabetical order by name): Paul Broden, K6MHD; Bruce Chappell, KE6TSM; Dave Conklin, KI6LYZ; Louie DeArman, K6SM; Richard Deen, KI6HWY; Tom Gaccione, WB2LRH; Reid Green, KF6LOK; Rebecca Katzen, KI6OEM; Mark Kern, KE6QXF; Doug Lindow, KJ6ILK; Andrea Martinez, K2ALM; Pete Martinez, K2PTM; Jim McLaughlin, AB6UF; April Moell, WA6OPS; Joe Moell, K0OV; Justin Miller, KI6AFZ; Robert Moore, KW6B; Dale Petes, KI6ANS; Dave Popko, AF6TN; Ken Simpson, W6KOS; Tom Smith, KB6A; Fred Wagner, KQ6Q; Corky Walker, KG6YWY; John Walker, AC7GK; Dave West, KI6EPI; and Woody Woodward, W6PA.

October 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 <i>City/County RACES Drill & Citizen Preparedness Drill</i>
2	3 <i>OCRACES Meeting & Weekly ACS Net</i>	4 <i>Happy 10-4 Day</i>	5	6	7	8 <i>OCFA Open House & Survive and Thrive Expo</i>
9	10 <i>Weekly ACS Net</i>	11	12	13	14	15
16	17 <i>Weekly ACS Net</i>	18	19	20	21	22 <i>Southwest ACS Meeting</i>
23	24 <i>Weekly ACS Net & City/County RACES Meeting</i>	25	26	27	28	29
30	31 <i>Weekly ACS Net</i>					

Upcoming Events:

- Oct 1: City/County RACES/ACS & MOU Drill, 0900-1100
- Oct 1: Citizen Preparedness Exercise, 1000-1500, Beckman High School, 3588 Bryan, Irvine
- Oct 3: OCRACES Meeting, 1930, 840 N. Eckhoff Street, Suite 104, Orange
- Oct 8: Survive and Thrive 5k Run/Walk Health & Safety Expo, 0700-1200, OCSD Training Academy, 1599 Armstrong Ave, Tustin
- Oct 8: OCFA Open House, 1000-1500 (Setup by 0900), Regional Fire & Training Center, 1 Fire Authority Road, Irvine
- Oct 22: Southwest ACS Meeting, 0900, 840 N. Eckhoff Street, Suite 104, Orange
- Oct 24: City/County RACES/ACS & MOU Meeting, 1900, 840 N. Eckhoff Street, Suite 104, Orange
- Oct 24: Southwest ACS Frequency/Radio Test, 2015



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: 1282.025 MHz output, 1270.025 MHz input, 88.5 Hz PL
- *Primary Net—Mondays, 1900 hours

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Questions or Comments?
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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 Marten Miller KF6ZLQ Robert Stoffel KD6DAQ



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