

February 2012



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

### P25 on Smartphones/Tablets?

In the January 2012 issue of NetControl, I mentioned that Yaesu is planning to introduce their own digital radios that might be P25 compatible. P25 is the Project 25 public-safety complex digital waveform standardized by the Association of Public-Safety Communications Officials (APCO). Now I have some more interesting P25-related news for you, which I first learned about in the January 2012 issue of *Military & Aerospace Electronics* magazine.

On November 29, 2011, Objective Interface Systems, Inc. (OIS) announced that Communications Research Centre Canada (CRC) ported a complete APCO P25 waveform and Software Communications Architecture (SCA) radio system to a small-form-factor Android device in just one day with zero source code modifications using the ORBexpress communications software. This port by CRC of the P25 waveform to an Android device realizes the Joint Tactical Radio System (JTRS) program initiative to facilitate the migration of software-defined radios (SDRs) to smaller, commercial form factors to enable faster time to market and substantially lower development costs.

The P25 waveform was designed to improve interoperability among civilian public-safety agencies. This port by CRC proves that public-safety radios can now easily adapt to new operating parameters—the real strength of SDR in a public-safety communications system. In addition, the success of this port makes it easier for mili-

tary radios to communicate easily and seamlessly with public-safety radios during homeland security and other emergency situations.

Many designers of SDRs (which are becoming increasingly popular with radio amateurs) believe that complex waveforms such as P25 are difficult to port and require digital signal processors (DSPs) and field programmable gate arrays (FPGAs) to run successfully. CRC has proved differently, and small devices can take advantage of an SCA-based SDR without sacrificing battery life or functionality.

SCA-based SDRs are projected to provide substantial new capability to public safety. The P25 platform port to the Android platform using ORBexpress lowers the cost and opens up communications on all types of devices between first responders. This may lead the way to running SDR applications on commercial smartphones and rugged tablet computers.

It has been projected that the two-way radios now used by public safety will be replaced by smartphones in a few years. This development by SDR experts at CRC, using OIS software, could speed the process. Radio amateurs are already able to use Android and Apple smartphones and tablets on amateur radio, such as through the use of Echolink apps. With emerging P25 apps, using surplus Motorola P25 radios and repeaters on the ham bands, and the pending Yaesu digital radios, we are on the fringe of this development. It's going to get more exciting, with new SDRs, smartphones, and apps to appear soon.

The Next  
OCRACES  
Meeting is

February 6, 2012  
1930 Hours

840 N. Eckhoff Street,  
Suite 104, Orange

Featured Speaker:  
Tom Tracey, KC6FIC

Review of January 15th  
SRRU Exercise



Orange County Sheriff's Department  
Communications & Technology Division

## OCRACES Participates in SRRU Exercise

County of Orange RACES participated in the OCSO Search & Rescue Reserve Unit (SRRU) mutual-aid exercise on Sunday, January 15, 2012. We functioned as the communications dispatchers for the event, operating from our emergency communications response vehicle positioned next to the Incident Command Post. Our van arrived at the scene shortly after 7:15 AM. The location was south of Ortega Highway off of Cristianitos Road, in the wilderness east of San Juan Capistrano. The drill scenario was to search for a downed aircraft and victims in the mountain wilderness.

Tom Tracey, KC6FIC, served as Dispatcher 1 on ORANGE 6 (OCSO encrypted 800-MHz trunked channel) and, for awhile, on BLUE (OCSO UHF repeater). RACES Sgt. Chuck Dolan, KG6UJC, served as Dispatcher 2, first on MAROON (law-enforcement UHF repeater) and ITAC-2 (international 800-MHz mutual-aid channel), and later on BLUE as traffic became heavier. RACES Capt. Ken Bourne, W6HK, was the communications unit supervisor, who, with Tom, interfaced with the SRRU leaders. Also assisting was John Bedford, KF6PRN.

The communications plan was written by Tom Tracey, who previously reviewed it with SRRU Capt. Steve Riches, N6SOG. It was an impressive plan, detailing personnel assignments, planned times of major events, and radio channels and their functions. Tom also prepared various forms such as a check-in list, clue log, incident communications team status chart, and communications log.

The entire drill was extremely well run, headed by Capt. Riches and his SRRU officers. Other participants included the OCSO Aero Squadron Reserve Unit (ASRU), about 70 personnel from San Diego County Search & Rescue, the Civil Air Patrol, and Boy and Girl Scouts (some of whom were dressed as air-crash victims). At the beginning, Capt. Riches assigned Reserve Deputy Joe Saddler, WA6PAZ (OCSO/Communications & Technology Assistant Director), and Chaplain Valerie Gauci to assist our communications unit. They were very helpful, but Joe was quickly reassigned to a field unit. SRRU PSR (and OCRACES

member) Jack Barth, AB6VC, assisted with setting up the van, but also had to respond to a field assignment.

With the OCRACES van next to the Command Post, the SRRU Ops Chief said he was able to focus on other aspects of coordinating the mission, while overhearing the traffic handled by the OCRACES dispatchers.

As a result of this exercise, SRRU is planning to write OCRACES into their callout/deployment procedures to automatically call OCRACES when they have a major mission. Therefore, it is imperative that we enhance our training procedures. Tom Tracey has some excellent ideas on how to do this, and will discuss the development of a support plan at the February 6th OCRACES meeting, when he will review the highlights of this SRRU exercise.



OCRACES van was parked next to the Incident Command Post, for easy interfacing with SRRU leaders.



Tom Tracey, KC6FIC, as Dispatcher 1 in van, handles heavy traffic from field teams on OCSO Orange 6.

member) Jack Barth, AB6VC, assisted with setting up the van, but also had to respond to a field assignment.



RACES Sgt. Chuck Dolan, KG6UJC (inside van), and John Bedford, KF6PRN.

## Next OCRACES Meeting: February 6th

The next County of Orange RACES meeting will be on Monday, February 6, 2012, at 7:30 PM, at 840 N. Eckhoff Street, Suite 104, in Orange. Our featured speaker will be Tom Tracey, KC6FIC, who will review our participation in the January 15th OCSD Search & Rescue Reserve Unit (SRRU) mutual-aid exercise in the wilderness off of Ortega Highway. Tom will also present ideas on how we can become better prepared to function as emergency communications dispatchers during such exercises and activations with SRRU.

At this meeting we will also discuss what remains to be done on antenna installations at the EOC, as well as additional training on D-STAR and other new equipment in the RACES Room. We will also discuss preparations for the Baker to Las Vegas Challenge Cup Relay (April 21-22, 2012), the next City/County RACES & MOU drill (probably on May 19, 2012), and Field Day (June 23-24, 2012).



**Tom Tracey, KC6FIC, shown here at the January 9th OCRACES meeting teaching how to be better observers when reporting incident conditions, will again be our featured speaker at the February 6th meeting. He will review the OCRACES participation in the January 15th SRRU mutual-aid exercise.**

## OCRACES Goes on Fire Patrol on January 8th

On Saturday, January 7, 2012, OCRACES Chief Radio Officer Ken Bourne notified all members that the National Weather Service had declared a Red Flag Warning for the next day, Sunday, January 8th, from 8:00 AM until 6:00 PM. Members were requested to notify Ken of their availability for Severe Fire Weather Patrol on Sunday, pending high winds. The response was very good, and Areas 1, 2, and 3 could be covered with short notice. Lt. Harvey Packard, KM6BV, and Lt. Ralph Sbragia, W6CSP, surveyed their squad members for availability.

Upon leaving church at about 9:20 AM Sunday morning, Capt. Bourne was in contact with OCSD Communications & Technology Division Director Robert Stoffel, KD6DAQ. The winds were fairly heavy, and a decision was made to activate the Severe Fire Weather Patrol at about 10:00 AM. Sgt. Chuck Dolan arrived at Capt. Bourne's home at that time, and they proceeded to Area 1. Kenan Reilly, KR6J, and John Bedford, KF6PRN, covered Area 2. Randy and Lee Anne Benicky, N6PRL and KI6VUH, covered Area 3. Lt. Packard was the initial Net Control, but, due to inherent noise on 2 meters that is typically generated during Santa Ana wind conditions, had troubles accessing the 2-meter repeater with his HT. Tom Tracey, KC6FIC, then took over as Net Control, and was relieved by Brian Turner, KI6WZS, after he arrived at the EOC on Loma Ridge to provide more effective coverage. Partly due to noisy conditions, communications through the 2-meter repeater were spotty at best at the end of Silverado Canyon Road, and simplex between that location and Loma Ridge was more reliable. No smoke or fires were spotted by the three teams. Winds died down shortly after 1:00 PM, and, by 2:00 PM, the patrol was concluded.

## ARRL Offers New Book on Emergency Power

*Emergency Power for Radio Communications* (2nd edition) by Michael Bryce, WB6VGE, is a new ARRL book to enable you to explore the various means of electric power generation for every application—from charging batteries to keeping the lights on. This book covers the foundation of any communications installation—the power source. Use this book to plan ways to stay on the air when weather or other reasons cause a short-term or long-term power outage. Find ways to reach beyond the commercial power grid and identify methods for alternative power generation that will work best in your particular situation, perhaps taking advantage of possibilities already on hand. The book discusses the proper tools for emergency or backup power, energy independence, and portable energy. This book is available from ARRL dealers or the ARRL Store at <http://www.arrl.org/shop/Emergency-Power-for-Radio-Communications>.

*Emergency Power for Radio Communications* (2nd Edition) (ARRL Order No 6153), ISBN 978-0-87259-615-3, \$27.95 retail, special ARRL Member Price \$24.95 (limited time only), plus shipping.

## EOC Training Offered to OCRACES Members

All OCRACES members are required to take basic EOC familiarization courses to qualify for duty at the EOC during an activation. New members especially need to make note of that, as well as taking FEMA ICS 100, 200, and 700 courses. OCSD Communications & Technology Division Director Robert Stoffel, KD6DAQ, recently e-mailed all members an EOC-related training schedule for the first six months of 2012. Staff and volunteers who work at the EOC during emergency activations may take classes appropriate for their assignment. At a minimum, all EOC responders must complete "Introduction to SEMS/NIMS & EOC Orientation" and "EOC Responder Section Training."

Contrary to the instructions in the registration form attached to Robert's e-mail, volunteers (such as RACES members) are unable to register via the County's Training Partner portal listed in the document. Rather, contact OCSD Emergency Communications Manager Marten Miller, KF6ZLQ, or OCRACES Chief Radio Ken Bourne, W6HK, for a copy of a form that may be faxed or e-mailed to register.

"Introduction to SEMS/NIMS & EOC Orientation" is mandatory for all County EOC response personnel and is a prerequisite for all additional EOC training sessions. This introductory course is intended to give participants a basic overview of the Standardized Emergency Management System and of the National Incident Management System, and an orientation to the basic functions of the County Emergency Operations Center. The course is offered on Thursday, March 8, 2012, from 10:00 AM to 12:00 PM.

Being a responder to the EOC requires training and preparation. "EOC Responder Section Training" is designed for anyone assigned a position in the EOC. Taking combined section training will provide you with an enhanced understanding of the dynamics of EOC operations. The following elements will be covered: *Operations, Logistics, Finance/Administration, and Planning/Intelligence*. This training will give participants an overview of each section in the EOC, including the roles and responsibilities of the branches within each section. Participants will learn how the sections work together to effectively manage emergency events. The course is offered on Thursday, March 15, 2012, from 10:00 AM to 12:00 PM, and also on Thursday, June 14, 2012, from 10:00 AM to 12:00 PM.

OCRACES officers who have taken the above two courses might also be interested in "EOC Management Section Training." The target audience for this course includes: Policy Group; Information Managers; Legal Advisors; Health Officer; Director of Emergency Services/Operational Area Coordinator; Radiological Protection Officer; Emergency Operations Center Liaison; Logistics, Finance/Administration, Operations, and Planning/Intelligence Section Chiefs; and Recovery Coordinator. This course provides an overview of the Management Section, including the specific roles and responsibilities of the Policy/Command Group. Instruction will include decision-making responsibilities such as how we proclaim a local emergency and how resources are requested and mobilized to support emergency response activities. This course is offered on Wednesday, February 15, 2012, from 9:00 AM to 11:00 AM, and also on Thursday, June 5, 2012, from 10:00 AM to 12:00 PM.

"Plotter Messenger Hotline" is a course of interest to Plotter Supervisor and Plotter staff, Messenger Supervisor and Messenger staff, and Hotline Supervisor and Hotline staff (a role in which some RACES members have functioned). This course is designed for personnel who may be assigned as Plotters, Messengers, or Hotline staff in the EOC. Training will include the proper display of important information on the status boards, how the messaging system works in the EOC, and how to operate the hotline. Hands-on training will be in the form of an exercise to practice gathering and plotting important information. Participants will practice on the hotline and will learn how to appropriately answer calls, identify and manage trends and rumors, and report information from callers to the Public Information Manager.

Another course is "Situation Analysis Support Staff (SASS), targeted to Situation Analysis Unit Leaders, Situation Analysis staff, Documentation Unit Leaders, Documentation staff, and Plotter Group Supervisor. This course will focus on the Situation Analysis support function within the EOC. Staff members assigned to this role are responsible for gathering and documenting important information about how the emergency is impacting County agencies, special districts, school districts, cities, and all other affected organizations. The course will include hands-on training on EOC forms and information flow. This course is offered on Thursday, April 12, 2012, from 1:00 PM to 3:00 PM, and also on Thursday, April 26, 2012, from 10:00 AM to 12:00 PM.

The registration form may also be used to sign up to participate in the Golden Guardian Exercise, a statewide exercise that will be held on Tuesday, May 15, 2012, from 9:00 AM to 3:00 PM. Training courses will be based on the needs of the participants. The schedule for training will be determined as planning progresses. No enrollment is necessary at this time. The next City/County RACES & MOU drill will be held on Saturday, May 19, 2012, and will use the same scenario as the Tuesday Golden Guardian Exercise, which is a 7.8-magnitude earthquake.

## Watching the Web

### Web Sites of Interest to RACES Personnel

K1IW Amateur Repeater and Broadcast Transmitters Database *Websearch*

<http://rptr.amateur-radio.net/>

## Amateur-Radio.Net

If you are traveling to another area and need to know what repeaters (as well as AM, FM, and TV broadcast transmitters) are available within a specified distance of your location, direct your laptop or smartphone or whatever computer you have with you (provided you have Internet access) to <http://rptr.amateur-radio.net>. Fields are provided to list the distance and the location (city name and state, or latitude/longitude, anywhere in the 50 U.S. states, the District of Columbia, and the 10 Canadian provinces). You may also specify whether to list only the closest transmitter for each frequency and the systems noted as off-air (dark).

Amateur repeaters and broadcast transmitters may be located on one or more of the following bands: 50 MHz/6 m; 144 MHz/2 m; 222 MHz/1.25 m; 440 MHz/70 cm; 902 MHz/33 cm; 1280 MHz/23 cm; AM broadcast; FM broadcast; and TV broadcast. An optional text string may be entered to filter the listings. For example, only repeaters with a particular name, call sign, frequency, or source abbreviation will appear.

Broadcast transmitter information is obtained from the FCC database. Repeater information is from the National Frequency Coordinator's Council (NFCC) official coordinating entity (OCE) when available. Otherwise, an alternate is used. Some areas have multiple sources.

Several repeater lists appear on the Web, and most are inadequate, especially compared to the *ARRL Repeater Directory* and the *Southern California Repeater Location Guide*. However, this Websearch accesses the best of the local databases and provides a combined listing of repeaters that is quite comprehensive.

## Alinco Introduces 222/902 MHz Dual-Band HT

Those who want to operate on the OCRACES 223.760 MHz repeater and on the N6OCS 927.1250 MHz repeater (owned by OCS Res. Lt. Mark Hergesheimer, KD6WLY, who says OCRACES members are welcome on his repeater) might be interested in Alinco's new DJ-G29T 222/902 MHz dual-band HT. Its maximum output power is 5 watts on the 222-MHz band and 2.5 watts on the 902-MHz band. Selectable full-duplex capabilities allow operation of the main band and sub (receive-only) band simultaneously. Independent dials are provided for the main and sub bands. The HT also has a crossband repeater feature.

Encode and decode tone squelch includes all 39 standard CTCSS tones plus 104 DCS selections. Alinco's user-selectable PTT delay option eliminates squelch tails that some repeaters retransmit at the end of receiving non-reverse-burst tone-encoded CTCSS signals.

The back-lit, full-matrix, alphanumeric LCD display includes easy-to-read icons and battery charge level. The "ChannelScope" function allows visual monitoring of nearby signals.

Direct frequency entry, wide/narrow bandwidth, mic gain, and multiple-step receiver attenuator are keypad selectable. A "wild key" enables quick change to a frequently used setting. The HT features DTMF encode and auto-dialer. A keylock function is provided. The DJ-G29T has 500 "quick-write" memory channels with memory banks. It also includes an automatic repeater-setting function. Multiple scan functions include VFO, memory, program, tone, DCS, and sweep. Cloning capability exists between DJ-G29T units or through a PC (with optional cable).

The Alinco DJ-G29T is available locally from HRO at \$349.99. Standard accessories include Li-Ion 1200-mAH battery pack, drop-in charger stand with AC adapter, antenna, belt clip, and hand strap. Optional accessories include cigarette cables with filter or charger, dry-cell case, plug conversion and cloning cables, earphone/mic, speaker mic, PC interface cables, and soft case.



# 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**

## Fullerton RACES

Fullerton RACES Radio Officer Gene Thorpe, KB6CMO, is signing up radio amateurs for providing communications for the Fullerton Jr. Tennis Tournament-2012, held on January 28-29 and to be held on February 4-5, 2012. Hours are 0730 to 1600

## Irvine Disaster Emergency Communications (IDEC)

Bob Pestolesi, KE6GYD, reports that IDEC (Irvine's RACES unit) tested its packet system on Saturday, January 21, 2012. All four of the Irvine Unified School District high schools have a ComBox (see photos) attached to a wall in a location near the gym where evacuation centers may be established. The exercise sent messages back and forth to IDEC's Radio Room at City Hall.

The IDEC ComBoxes are equipped with a VHF/UHF radio, TNC, laptop, and printer. They are capable of voice as well as packet. They have multiple power capabilities and can run off of external AC, internal batteries, or a 12-V automotive battery from

a vehicle parked nearby. The stations, while somewhat heavy, can be handled by two people and can be easily removed from the wall and set up outside if it is necessary to evacuate the building.

Each station is connected to a Comet GP-3 base-station antenna on the roof, allowing simplex communications throughout the City. Coordination and cooperation with school district personnel facilitated the installation of the boxes as well as provided conduit and mounting points for the external antennas and, if needed, installation of AC to power the unit and battery-charging system.

The laptops are running Windows XP and Office and are loaded with Outpost Packet Message Manager (freeware) that automates the typical packet commands in a program similar to an e-mail client interface. While these stations are not Internet capable (unless connected to local WiFi, IDEC has found that, with minimal investment and infrastructure, text, lists, etc., that are not immediately time sensitive can be sent from the high schools to the EOC when other means of messaging such as e-mail, Internet, etc., may be down, thus keeping voice channels available for messages needing instant action.

## County of Orange RACES

We are sad to report that the Huntington Beach home of Brian Lettieri, KI6VPF, burned down on Friday evening, January 6, 2012. While out dining, Brian received a cell-phone call from a neighbor that his house was on fire. After returning, Brian's wife Doreen had to be restrained by three firemen when she tried to get into the burning house to save her four trapped dogs. Fortunately, the dogs had already been rescued. Besides losing his house, Brian lost his new Toyota Prius, his beloved motorcycle, and the antenna system he had recently tweaked to perfection on his roof. Brian appreciates the concern that many in OCS D immediately showed for his and Doreen's well-being.



**ComBox on wall near gym.**



**Open ComBox showing VHF/UHF radio, TNC, laptop, and printer.**

# February 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6 <i>OCRACES Meeting &amp; Weekly ACS Net</i>	7	8 <i>OCCARO Meeting</i>	9	10	11
12	13 <i>Weekly ACS Net</i>	14	15	16 <i>CPRA Meeting</i>	17	18
19	20 <i>Weekly ACS Net</i>	21	22	23	24	25
26	27 <i>Weekly ACS Net &amp; SWACS Freq. Test</i>	28	29			

## Upcoming Events:

- **Feb 6:** OCRACES Meeting, 1930 hours, 840 N. Eckhoff Street, Orange; review of January 15th SRRU Exercise by Tom Tracey, KC6FIC
- **Feb 8:** Orange County Council of Amateur Radio Organizations (OCCARO) Meeting, Red Cross, Santa Ana, 1930 hours
- **Feb 16:** California Public Safety Radio Association Meeting, OC EOC, 1000 hours
- **Feb 27:** Southwest ACS Frequency and Radio Test, 2015 hours
- **Apr 21-22:** Baker to Las Vegas Challenge Cup Relay
- **May 15:** Golden Guardian
- **May 19:** City/County RACES & MOU Exercise, 0900-1100 hours



[www.ocraces.org](http://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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Radio Officers (Lieutenants)  
Scott Byington, KC6MMF  
Harvey Packard, KM6BV  
Ralph Sbragia, W6CSP

Assistant Radio Officers (Sergeants)  
Jack Barth, AB6VC  
Chuck Dolan, KG6UJC  
Jim Carter, WB6HAG  
Ernest Fierheller, KG6LXT

## County of Orange RACES

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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



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

Brian Lettieri  
KI6VPF

Kenan Reilly  
KR6J

John Roberts  
W6JOR

Joe Selikov  
KB6EID

Tom Tracey  
KC6FIC

Brian Turner  
KI6WZS