

January 2010



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*

### Avoiding a Train Wreck

I'm talking about wrecking our training program—by not training enough. Some of us radio amateurs become a little bored with training on the same thing, over and over. Instead, we like to discover new things, especially in radio-electronics. Fortunately, we make our training programs interesting, but just not often enough. Each year we come up with a different scenario for our annual City/County RACES & MOU Drill, such as “civil unrest” this past October, which generated some interesting traffic. The drill was so interesting, in fact, that the majority of those attending the last City/County RACES & MOU meeting wanted to expand the drill into two and maybe even four exercises per year.

At first, I thought April 3rd would be a good date for our next City/County/MOU drill, since it's exactly a half-year from our October drill. However, OCSD Emergency Communications Manager Marten Miller, KF6ZLQ, reminded me that we are already pretty busy in April, with Baker to Vegas on April 17-18 (and probably preparations at least the week-end before) and Rebuilding Together Orange County (RTOC) probably on April 24th. Marten thought about having a Spring City/County/MOU drill the same day as RTOC, which would encourage coverage of all sites, but he said it would probably be too confusing, with the risk of “real” traffic being lost in the drill traf-

fic. Nevertheless, we encourage all City, County, and MOU members to participate in RTOC, not only because of the public service we would provide, but also because of the excellent practice (training) we would receive. We are not ruling out April 3rd for our next City/County/MOU drill, but we will see what the majority desires at our January 25th City/County RACES & MOU meeting. We may decide to hold the drill in May, instead. Perhaps we will synchronize it with Golden Guardian 2010, which will occur on May 17th and a light OA communications drill on May 19th. Our City/County RACES & MOU drill might occur on the Saturday before or after.

We will have plenty of other training opportunities in 2010, such as Field Day, getting acquainted with Winlink as we put together the systems for Cities and the County, practicing with other digital modes, etc.

If you have time during the week, OCSD/Emergency Management provides training opportunities to acquaint (and re-acquaint!) you with the EOC, Standardized Emergency Management System (SEMS), WebEOC, your role during an emergency, and to prepare you for exercises and actual emergencies. OCSD/Communications Director Robert Stoffel, KD6DAQ, e-mailed a description of the courses and the 2010 Training Schedule to OCRACES members on December 10th. Register for a course with Peggy Erdner at [perdner@ocsd.org](mailto:perdner@ocsd.org).

**The Next  
OCRACES  
Meeting Is**

**January 4, 2009**

**1930 Hours**

**Featured Speakers:**

Ken Konechy, W6HHC  
Robbie Robinson,  
KB6CJZ  
Digital ATV



Orange County Sheriff's Department  
Communications & Technology Division



# OCRACES Members Attend Holiday Dinner

OCRACES celebrated its annual Holiday Dinner on Monday, December 7, 2009, at Marie Callender's on Katella Avenue in Orange. OCSD Emergency Communications Manager Marten Miller, KF6ZLQ, handled the arrangements with the restaurant, assisted by OCSD/Communications Secretary II Angela Strehle. Marten presented awards to members for their service and participation throughout the year. As elected by the members, Radio Officer Scott Byington, KC6MMF, received the Officer of the Year Award, and Tom Tracey, KC6FIC, received Member of the Year (see page 6).

After the awards were presented, OCSD/Communications Director Robert Stoffel, KD6DAQ, thanked OCRACES members for their dedication. Other OCSD/Communications personnel at the dinner included Assistant Director Ray Grimes, N8RG, and Telecommunications Engineer Steve Sobodos, KN6UX, who are also OCRACES members. Other members attending, most with a spouse and/or other family member, included Radio Officer Harvey Packard, KM6BV, Walter Kroy, KC6HAM, Chief Radio Officer Ken Bourne, W6HK, John Roberts, W6JOR, Martin La Rocque, N6NTH, Bill Borg, KG6PEX, Randy Benicky, N6PRL, Assistant Radio Officer Chuck Dolan, KG6UJC, and Nancee Graff, N6ZRB. Also attending were OCRACES Applicant Kenan Reilly, KR6J (with wife), and American Red Cross Disaster & Client Services Specialist Tom Woodard, KI6GOA (with fiancée). Below is a montage of photos of some of those attending the dinner..



**OCSD Emergency Communications Manager, KF6ZLQ (left), presents Officer of the Year Award to Radio Officer Scott Byington, KC6MMF**



**OCSD/Communications Director Robert Stoffel, KD6DAQ**



## DATV at Next OCRACES Meeting: January 4th

The next OCRACES meeting is on Monday, January 4, 2010, at 7:30 PM, at OCSD/Communications, 840 N. Eckhoff Street, Suite 104, in Orange. Our featured speakers are Ken Konechy, W6HHC, and Robbie Robinson, KB6CJZ, from City of Orange Amateur Radio (COAR), the city's RACES unit, who will describe and demonstrate their digital ATV system, which uses the DVB-S standard to transmit a digital ATV signal with QPSK (quadrature phase shift keying) modulation and FEC (forward error correction) algorithms to protect against noise errors and multipath errors. Digital ATV is more bandwidth efficient than analog ATV. With QPSK modulation, the DATV bandwidth can be as narrow as 2 MHz or 3 MHz, while still maintaining high signal quality. The advances that Ken and Robbie have made are impressive, and we expect this to be a most fascinating presentation.

## New Online Weather Spotter Reporting System

*by Miguel Miller, Forecaster and Spotter Manager, National Weather Service - San Diego*

The SKYWARN organization is stepping up to help the NWS support our online spotter reporting system. It will be hosted on the [swskywarn.org](http://swskywarn.org) website and will be maintained by SKYWARN as their own system. This new system will replace espotter. It will also improve many reporting details, such as:

- ◆ Spotters will have a much more user-friendly report form
- ◆ No registration, user ID, nor password (with the annoying mandated change every 60 days!) will be required for use
- ◆ The page will actually have technical support, unlike with espotter
- ◆ The forecasters will enjoy:
  - ◆ Each report gets automatically alarmed to forecaster workstations
  - ◆ Each report automatically gets added to our spotter report log for archiving
  - ◆ The absence of all the glitches, headaches, and lack of support of espotter (too numerous to enumerate)
  - ◆ Ease of compiling our Local Storm Report (LSR) products

Here are the instructions for use:

- ◆ Simply go to the same link on our home page to submit a spotter report online at [weather.gov/sandiego](http://weather.gov/sandiego) and click on "Spotter Report" at left.
  - ◆ It will take you to <http://swskywarn.org/ReportWeather.php>
- ◆ To enter your report please follow these instructions:
  1. Enter your Latitude, Longitude, and Elevation if known, but they are not mandatory for your report to be accepted.
  2. Enter your e-mail address (required). This will be useful if we wish to contact you for further information.
  3. Enter your Spotter ID if applicable.
  4. Pull-down windows will allow you to enter your location and specific weather elements. Press down "Ctrl" to select multiple Weather Elements.
  5. Enter a detailed description. (Required—please include the time of your observation; it is very important to us.)
  6. Submit and confirm your report. Your report will be sent to Weather Forecast Office within minutes.
    - ◆ These instructions are also linked at the top of the report form for your convenience.
    - ◆ A confirmation e-mail will be sent to the spotter following each submitted report.
    - ◆ If the system for some reason fails, there is a message that states, "If you do not receive a confirmation e-mail within five minutes, please call the NWS on their spotter number." If this happens, please call us!



The new reporting system works now! With the upcoming wet weather, please review the reporting criteria and enjoy the new system. Thanks for your continued spotter support.



# Amateur Radio EmComm Bill Passes Senate

S. 1755—The Amateur Radio Emergency Communications Enhancement Act of 2009—passed the Senate by unanimous consent on December 14, 2009. The bill now goes to the House of Representatives for consideration. S. 1755, if passed, would direct the Department of Homeland Security (DHS) to undertake a study on emergency communications.

The bill stated that Congress finds the following:

- (1) Nearly 700,000 amateur radio operators in the United States are licensed by the Federal Communications Commission in the Amateur Radio Service.
- (2) Amateur Radio Service Operators provide, on a volunteer basis, a valuable public sector service to their communities, their States, and to the Nation, especially in the area of national and international disaster communications.
- (3) Emergency and disaster relief communications services by volunteer Amateur Radio Service operators have consistently and reliably been provided before, during, and after floods, hurricanes, tornadoes, forest fires, earthquakes, blizzards, train accidents, chemical spills, and other disasters. These communications services include services in connection with significant examples, such as—
  - (A) Hurricanes Katrina, Rita, Hugo, and Andrew;
  - (B) The relief at the World Trade Center and the Pentagon following the 2001 terrorist attacks; and
  - (C) The Oklahoma City bombing in April 1995.
- (4) Amateur Radio Service has formal agreements for the provision of volunteer emergency communications activities with the Department of Homeland Security, the Federal Emergency Management Agency, the National Weather Service, the National Communications System, and the Association of Public Safety Communications Officials, as well as with disaster relief agencies, including the American Red Cross and the Salvation Army.
- (5) Section 1 of the joint resolution entitled “Joint Resolution to recognize the achievements of radio amateurs, and to establish support for such amateurs as national policy”, approved October 27, 1994 (Public Law 103-408), included a finding that stated: “Reasonable accommodation should be made for the effective operation of amateur radio from residences, private vehicles, and public areas, and the regulation at all levels of government should facilitate and encourage amateur radio operations as a public benefit.”
- (6) Section 1805(c) of the Homeland Security Act of 2002 (6 U.S.C. 757(c)) directs the Regional Emergency Communications Coordinating Working Group of the Department of Homeland Security to coordinate their activities with ham and amateur radio operators among the 11 other emergency organizations such as ambulance services, law enforcement, and others.
- (7) Amateur Radio Service, at no cost to taxpayers, provides a fertile ground for technical self-training in modern telecommunications, electronic technology, and emergency communications techniques and protocols.
- (8) There is a strong Federal interest in the effective performance of Amateur Radio Service stations, and that performance must be given—
  - (A) Support at all levels of government; and
  - (B) Protection against unreasonable regulation and impediments to the provision of the valuable communications provided by such stations.

The bill prescribed study of enhanced uses of amateur radio in emergency and disaster relief communications and for relief of restrictions.

- (a) Authority.—Not later than 180 days after the date of enactment of the Act, the Secretary of Homeland Security shall—
  - (1) Undertake a study on the uses and capabilities of Amateur Radio Service communications in emergencies and disaster relief; and
  - (2) Submit a report on the findings of the Secretary to Congress.
- (b) Scope of the Study.—The study required by this section shall—
  - (1) Include a review of the importance of amateur radio emergency communications in furtherance of homeland security missions relating to disasters, severe weather, and other threats to lives and property in the United States, as well as recommendations for—
    - (A) Enhancements in the voluntary deployment of amateur radio licensees in disaster and emergency communications and disaster relief efforts; and
    - (B) Improved integration of amateur radio operators in planning and furtherance of the Department of Homeland Security initiatives; and
  - (2)
    - (A) Identify impediments to enhanced Amateur Radio Service communications, such as the effects of unreasonable or unnecessary private land use regulations on residential antenna installations; and
    - (B) Make recommendations regarding such impediments for consideration by other Federal departments, agencies, and Congress
- (c) Use of Expertise and Information.—In conducting the study required by this section, the Secretary of Homeland Security shall utilize the expertise of stakeholder entities and organizations, including the amateur radio, emergency response, and disaster communications communities.

# Watching The Web

**Web Sites of Interest to RACES Personnel  
by RACES Capt. Ken Bourne, W6HK, Chief Radio Officer**

PIC-Based TNC

<http://www.tnc-x.com>



This Coastal ChipWorks Web site at <http://www.tnc-x.com> describes the TNC-X terminal node controller kit plus daughterboards for the TNC-X including the uSmartDigi configurable APRS digipeater and uSmartDigi D-Gate D-STAR gateway, the X-Digi digipeater, and the X-Track tracker.

The TNC-X kit design is based on the Cheponis/Karn KISS protocol. It is implemented using a Microchip PIC 16F628A microcontroller, a CML MX614 Bell 202 modem chip, an 8K Ramtron FRAM, a MAX232A level converter chip, and an op-amp that provides active audio filtering for the modem. The TNC-X features an 8-pin expansion header for the daughterboards, including power connection. Signals that would otherwise go to or from a host PC can be intercepted by the daughterboard at the TTL level and processed. The I/O on the expansion header is “KISS”-configured so that any daughterboard only has to send and receive data packaged in KISS format to access the core module. The expansion header also provides access to a second on-board serial port. The X-Track daughterboard, for example, uses this port to receive data from a GPS receiver. The data is then processed and formed into packets and an APRS beacon is sent.

The TNC-X is available with and without a USB port. Both versions contain a standard serial port, but the USB version also allows the TNC to be connected to a computer via its USB port as well. Drivers that are shipped with the module make it appear to the host PC as a standard serial port. Thus PC software that expects to see a serial port on the computer will interpret the TNC-X as being connected to such a port, even when the PC has no serial ports, or they are all used by other applications. With the USB option, the TNC can be powered from the USB port of the computer; no other power supply is needed.

Even without daughterboards or the USB option, the device works as a fully functional stand-alone KISS-mode TNC.

The uSmartDigi APRS digipeater and the uSmartDigi D-Gate D-STAR gateway are postage-stamp sized DSP microcontrollers imbedded in the TNC-X to eliminate the dedicated laptop or PC. The uSmartDigi eliminates duplicate packets and filters any packet with advanced rule-based controls. This enables easy deployment of a custom-configured APRS repeater for emergency service.

The X-Digi digipeater daughterboard’s firmware is based on UIDigi firmware and fully supports the new WIDEN-n paradigm. It supports UITrace, UIFlood, and UICall parameters. It supports dupe checking (based on the source, destination, and payload of each packet) at a user-settable timeout interval. It has provision for four different text beacons, each with its own path. It allows you to specify a maximum value for UITrace and UIFlood parameters to prevent users from specifying a WIDE-7 path, for example.

The X-Track daughterboard allows you to connect an external GPS receiver directly to your TNC-X to transmit MIC-E encoded packets containing your position and beacon information, while all of the functions of the TNC-X are preserved. Thus you can, for example, run an APRS program on your computer, connect the computer to the TNC-X through either the TNC-X’s primary serial port or USB port, and connect a GPS receiver simultaneously to the TNC-X auxiliary serial port. Therefore you can run an APRS program on your computer and take position information from a GPS receiver, on a computer with no serial ports.

# RACES/ACS News from Around the County

**"RACES/ACS 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:**

**w6hk@ocraces.org**

## Cypress

Gael Lockin announced at the December 3rd OCEMO meeting that the City of Cypress will be holding interviews to develop a RACES program for the City.

## Fullerton

City of Fullerton RACES Radio Officer Gene Thorpe, KB6CMO, provided a list of 2010 events that Fullerton RACES and Fullerton Radio Club members will be participating in:

- ◆ Fullerton Junior Tennis Tournament, January 30-31, February 6-7
- ◆ Los Angeles Marathon, March 21
- ◆ Baker to Vegas, April 17-18
- ◆ Donate Life Run/Walk, May 1
- ◆ Railroad Days (moved from Fullerton to Brea), May 1-2
- ◆ Airport Day, May 22
- ◆ Field Day, June 26-27

Anyone wishing to participate should contact Gene at kb6cmo@arrl.net.

## Santa Ana

The Santa Ana Response Team (SART), the City's ACS unit, recently received the vanity call sign WE6SRT. Trustee of the license is Assistant Radio Officer Larry Wilson, K6SCH.

## Westminster

Rebecca Barlow, Police Service Officer / Emergency Services Coordinator, is now the RACES program coordinator for the City of Westminster.

## Orange County

Tom Tracey, KC6FIC, was elected OCRACES Member of Year (2009). He could not attend the OCRACES Holiday Dinner on December 7th (see article on page 2) to receive his award, so OCSD Emergency Communications Manager Marten Miller, KF6ZLQ, presented the plaque to Tom at Care Ambulance (where he is a dispatcher) the next day.



**Tom Tracey, KC6FIC (left), receives OCRACES Member of the Year Award from OCSD Emergency Communications Manager Marten Miller, KF6ZLQ**

## Burbank RACES Reorganizes

Burbank Emergency Amateur Radio Service (BEARS) has served its city for many years in staffing the EOC and local neighborhood command posts in times of emergency, providing radio support for CERT posts, and providing radio support for Arson Watch. Besides assisting the community with communications during emergencies and special events, BEARS has also been a part of the Los Angeles County Disaster Communications Service (DCS) and was assigned to the Crescenta Valley Sheriff Station. Now, according to City Radio Officer Eric Christensen, K6EJC (formerly an OCRACES member), the unit's name will change to Firecorps ACS, but the people will remain the same. Eric thanks Joe Dunn, KF6MHL, for his time as City Radio Officer and then Assistant Radio Officer. When Joe stepped down, Alex McGregor, K9AKM, and David Schoch, KI6UCK, stepped in. Eric is also the new ARRL ARES District Emergency Coordinator (DEC) for the Northwest Los Angeles District, which includes Glendale, Burbank, San Fernando Valley, Santa Clara Valley, and Santa Monica.

# January 2010

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 <i>Happy New Year</i>	2
3	4 <i>OCRACES Meeting &amp; Weekly ACS Net</i>	5	6	7 <i>OCEMO Meeting</i>	8	9 <i>EmComm Breakfast</i>
10	11 <i>Weekly ACS Net</i>	12	13	14	15	16
17	18 <i>Weekly ACS Net</i>	19	20 <i>SEMS/NIMS/EOC Orientation Training</i>	21	22	23
24	25 <i>City/County RACES Meeting &amp; Weekly ACS Net</i>	26	27	28	29	30 <i>Palm Springs Hamfest &amp; SWACS Meeting</i>
31						

## Upcoming Events:

- **Jan 4:** OCRACES Meeting (Topic: DATV), 1930, 840 N. Eckhoff St., Suite 104, Orange
- **Jan 9:** EmComm Breakfast, Katella Grill, Orange
- **Jan 7:** OCEMO Meeting, 0900, 15505 Sand Canyon Ave., Irvine
- **Jan 20:** SEMS/NIMS/EOC Orientation Training, 1330-1530
- **Jan 25:** City/County RACES/ACS & MOU Meeting, 1900, 840 N. Eckhoff St, Suite 104, Orange
- **Jan 25:** Southwest ACS Frequency/Radio Test, 2015
- **Jan 30:** Palm Springs Hamfest
- **Jan 30:** Southwest ACS Meeting, 0900, San Bernardino County EOC, Fontana



[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
  - 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

### Program Coordinator

Marten Miller, KF6ZLQ  
(714) 704-7917

### Radio Officers (Lieutenant)

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

### Chief Radio Officer (Captain)

Ken Bourne, W6HK  
(714) 997-0073

### Assistant Radio Officers (Sergeant)

Jack Barth, AB6VC  
Chuck Dolan, KG6UJC  
Jim Carter, WB6HAG  
Ernest Fierheller, KG6LXT

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# County of Orange RACES

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It's Where It's @!

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

Randy Benicky  
N6PRL

Bill Borg  
KG6PEX

Nancee Graff  
N6ZRB



Ray Grimes  
N8RG

Walter Kroy  
KC6HAM

Martin La Rocque  
N6NTH

John Roberts  
W6JOR

Joe Selikov  
KB6EID

Steve Sobodos  
KN6UX

Tom Tracey  
KC6FIC