

March 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

Repeater and Simplex Issues

We need to pay attention to a couple of recent FCC and TASMA (Two Meter Area Spectrum Management Association) decisions.

On December 9, 2009, the Federal Communications Commission dismissed a Petition for Rulemaking filed on March 23, 2009, by Murray Green, K3BEQ, concerning the operation of repeater stations in the Amateur Radio Service. Green requested the FCC to amend Section 97.205(e) of its Rules to prohibit a repeater station licensee or control operator from limiting the use of a repeater to only certain user stations, unless a user blatantly violates the Commission's Rules." Green argued that Section 97.205 (e), which says, "Limiting the use of a repeater to only certain user stations is permissible," conflicts with Section 97.101(b), which says, "Each station licensee and each control operator must cooperate in selecting transmitting channels and in making the most effective use of the amateur service frequencies. No frequency will be assigned for the exclusive use of any station."

The FCC, in its denial of Green's petition, concluded that Section 97.205 (e) does not establish an exclusive assignment of a frequency to a repeater. The Commission said, "Coordination does not and cannot result in assignment or establish control of an amateur service

channel, and nothing in the rules prohibits other amateur stations from using the channels for which a repeater has been coordinated when they are not being used by the repeater. Section 97.205(e) merely enables a repeater licensee or control operator to control the repeater so that he or she can ensure the repeater is properly operated as required by Section 97.105 (a). Accordingly, there is no conflict between the rules."

All OCRACES open and closed repeaters are coordinated, but that does not give exclusive rights to the repeater frequencies, just rights to the repeater licensee or control operators to limit the use of the repeaters to only certain user stations. The repeaters are privately owned by OCSD, and OCSD's control operators can say who can or cannot use the repeaters. (For example, if an individual or group monopolizes one of our open repeaters, we have the right to request them to cease such monopolization or to limit their communications to a specific amount of time, or even to discontinue all operations on our repeater. Likewise, we advise OCRACES members to avoid monopolizing other repeaters.) However, the repeater frequencies are not exclusive! Section 97.205(c) says, "Where the transmissions of a repeater cause harmful interference to another repeater, the two station licensees are equally and fully responsible for resolving the interference unless the operation of one station is recommended by a frequency coordinator

**The Next
OCRACES
Meeting Is
March 1, 2009
1930 Hours**

Featured Speaker:
**David Corsiglia,
WA6TWF**
EMP Attack Scenario



Orange County Sheriff's Department
Communications & Technology Division

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Captain's Corner *Continued from page 1*

and the operation of the other station is not. In that case, the licensee of the noncoordinated repeater has primary responsibility to resolve the interference.”

Amateur repeater frequencies are shared. Coordinators such as TASMA try to keep such shared-frequency repeaters as geographically far apart as possible, to limit interference. If the repeaters use different subaudible-tone (“PL”) decoder frequencies, the users of one repeater will not key up other repeater on the same frequency. Furthermore, if the repeaters regenerate the subaudible tones, the repeater users have the option of using subaudible-tone decoders in their receivers to hear only their own repeater.

OCRACES has coordinated simplex frequencies for itself and City RACES units. We do not own these frequencies, and must share them with all other amateurs who wish to use them. At least a couple of City RACES units have recently “lost” a coordinated 2-meter simplex frequency due to TASMA reassigning a block of former simplex frequencies to D-STAR repeater usage. OCRACES has also “lost” one of its simplex frequencies because of TASMA’s action. Therefore, we are currently reconfiguring this coordination, and some additional sharing of frequencies will probably be needed. The new TASMA-recognized band plan designates digital voice repeater inputs from 144.985 MHz to 145.015 MHz, and outputs from 147.540 MHz to 147.570 MHz. This creates four frequency pairs for very narrow band (compatible with 10-kHz channel spacing) full-duplex digital voice repeaters such as D-STAR systems. Coordination is required.

When conducting a RACES net or drill on a simplex frequency, even under FCC RACES Rules that prohibit communicating with non-RACES stations, we must avoid interfering with other stations using the

DIGITAL VOICE REPEATER PAIRS	
Input	Output
144.985 MHz	147.540 MHz
144.995 MHz	147.550 MHz
145.005 MHz	147.560 MHz
145.015 MHz	147.570 MHz

frequency. We have priority on a frequency only during an emergency. Section 97.101(c) says, “At all times and on all frequencies, each control operator must give priority to stations providing emergency communications, except to stations transmitting communications for training drills and tests in RACES.”

OCRACES no longer conducts its training drills and even most of its emergency nets as FCC-defined RACES operations. Note that the FCC Rules do NOT define RACES units or organizations, just RACES operations. Our OCSD RACES unit is really an ACS (Auxiliary Communications Service) unit, as defined by Cal EMA, operating under FCC Amateur Radio Service Rules, and not under the FCC RACES Rules, unless we so choose such operation, or if RACES is the only operation permitted by the FCC on amateur frequencies because of a declaration of President’s War Emergency Powers. Therefore, during an ACS drill or emergency activation, we may communicate with any amateur station on frequency, RACES or non-RACES. During a directed weekly net or drill, we may prohibit communications between net members and non-participants. During a controlled emergency net, we may prohibit or (preferably) limit all communications on the repeater not related to the emergency.

EMP at Next OCRACES Meeting: March 1st

The next OCRACES meeting is on Monday, March 1, 2010, at 7:30 PM, at OCSD/Communications, 840 N. Eckhoff Street, Suite 104, in Orange. Our featured speaker is OCSD Reserve Lt. David Corsiglia, WA6TWF, who will discuss the potential destruction of communications and other electronic equipment (including automotive and medical electronics) in the event of an EMP (electromagnetic pulse) attack. For those who bring flash drives, David will provide an audio-book copy of *One Second After*, a novel by William Forstchen about the virtual destruction of the United States due to an EMP attack.

Also at this meeting we will discuss progress on the Winlink project, Baker to Vegas, Rebuilding Together Orange County, and other topics.

Earthquake Early Warning System Possible

An earthquake early warning system for California is feasible in coming years, according to research presented December 14-15, 2009, at the American Geophysical Union meeting in San Francisco. The ongoing study shows that an earthquake early warning system for California is possible and shows how such a system could be built.

Earthquake early warning systems, already deployed in Mexico, Japan, and Taiwan, can detect an earthquake in progress and provide notice of seconds to tens of seconds prior to actual ground shaking. Building on developments in other countries with significant earthquake risk, scientists are exploring early warning in the United States.

After a three-year earthquake early warning study funded by the U.S. Geological Survey was completed in August 2009, a second USGS-funded project was launched to integrate the previously tested methods into a single prototype warning system. When completed, the pilot system, called the California Integrated Seismic Network (CISN) ShakeAlert System, will provide warning in a small group of test users, including emergency response groups, utilities, and transportation agencies. While in the testing phase, the system will not provide public alerts.

The CISN ShakeAlert system will detect strong shaking at an earthquake's epicenter and transmit alerts ahead of the damaging earthquake waves. The speed of an electronic warning message is faster than the speed of earthquake waves traveling through the earth. Potential applications include stopping elevators at the nearest floor, slowing or halting trains, monitoring critical systems, and alerting people to move to safer locations. In warning systems deployed abroad, alerts are distributed via TV and radio networks, the Internet, cell phones, and pagers.

The earthquake early warning test uses real-time data from the California Integrated Seismic Network. The CISN is part of the USGS Advanced National Seismic System, through which the USGS aims to broadly improve earthquake monitoring and reporting in the United States. Funding for the CISN is provided by the USGS and the state of California. The EEW study is a collaboration among the USGS, Caltech, UC Berkeley, the Swiss Seismological Service, and the Southern California Earthquake Center.

In the next two years American Recovery and Reinvestment Act stimulus funding will be used to upgrade many of the older, slower seismic instruments throughout the CISN. These older instruments introduce time delays and would slow down early warning alerts.

Receiving Wireless AMBER Alerts

by Undersheriff John L. Scott, Orange County Sheriff's Department

We all know the names Amber Hagerman, Megan Kanka, Polly Klaas, Jaycee Duggard, and Samantha Runnion because they were tragic victims of predators. An alarming statistic shows that 74% of abducted children are murdered within three hours from an abduction. This statistic is particularly frustrating when we are living in the information age where information is instantly available to us by various means. AMBER Alert information is now available through cell phone communications, which instantly provides the cell phone user with pertinent information to assist in the recovery efforts of kidnapped children before the crucial three-hour window has lapsed.

I want all OCSD employees to know that this AMBER Alert system is currently in place allowing notification to your cell phone as soon as the National Center for Missing and Exploited Children is notified of an abduction. The National Wireless AMBER Alerts Initiative is a voluntary partnership between the wireless industry, the United States Department of Justice, and the National Center for Missing and Exploited Children to distribute AMBER Alerts on a regional basis to wireless subscribers who choose to receive the messages. There is no charge for enrolling in the service or receiving an AMBER Alert on your wireless device and you don't even have to have a text message plan to receive a Wireless AMBER Alert text message. Sprint, Verizon, AT&T, T-Mobile, and others are participating carriers.

To receive Wireless AMBER Alerts, simply text the word AMBER followed by a space and your 5-digit ZIP code to 26237. You will get a reply that confirms your enrollment. You can also go to <http://www.wirelessamberalerts.org> to enroll.

Wireless AMBER Alerts are a force multiplier that could help save an abducted child. In the event of an abduction, you become another pair of eyes looking for the suspect vehicle. I encourage everyone to enroll.

Configuring Winlink Systems

Configuration of Winlink systems for OCRACES and the City RACES units is progressing. The desktop computers that are being prepared for each RACES unit now have the most recent versions of both Paalink and RMS software configured and ready for operation. Microsoft Office with all updates and Outpost software have also been installed.

Each package includes two 70-cm radios, one 2-m radio, two Kantronics KPC-9612+ TNCs, two dual-band omnidirectional antennas, one antenna duplexer, and one pin-feed printer. The first 70-cm and 2-m radios, along with the duplexer, antenna, and first TNC will be used exclusively for the Winlink portion of the project. The second UHF radio will be used for mission-defined operations, which may include TCP/IP over amateur radio, Outpost, or other applications as mission requirements vary.

The County's RMS site locations will include Loma Ridge, San Clemente, and Olinda (eastern Brea atop Carbon Canyon, overlooking the eastern Santa Ana Canyon area above the 91 Freeway). Each of these sites will be on 70 cm exclusively at 9600 baud. Each of the County and City locations in this project will have complete RMS capabilities running in conjunction with the Paalink software, providing the most robust configuration possible. Port openings at each location are critically necessary to establish the broad number and location of the nearest RMS site. The possibility of losing Internet connections countywide is very remote. Each city's IP professional should open the suggested ports, and the 2-m portion of the system will allow local members to utilize their existing 1200-baud 2-m equipment to practice the Winlink concept on their own.

The most recent work on the project, as we go to press, was accomplished by OCRACES members with additional assistance, on Thursday evening, February 18th, Friday afternoon, February 19th, and all day Saturday, February 20th, from 8:00 AM to 10:00 PM, in the large conference room at OCS/Communications on Eckhoff Street in Orange, filled with computers, monitors, printers, etc. Chuck Dolan, KG6UJC, Scott Byington, KC6MMF (project leader), Ken Bourne, W6HK, Don Cooke, AF6CV (OCRACES applicant), Glenn Kawaratani, KC6TAC (Scott's friend from Simi Valley), and Russ Turnquist (OCS/Communications Network Administrator) participated, mostly loading software into the desktop computers that will be deployed to the City EOCs and testing and inspecting printers and other equipment. After leaving the Eckhoff facility Saturday night, Scott, Ken, and Don moved the mission to the Loma Ridge EOC RACES Room where successful efforts were made to stabilize the existing RMS system that had a suspect hard drive and TNC output levels that needed adjusting. Work concluded shortly after midnight.

Coaxial cable and related connectors are expected to be delivered to Eckhoff sometime during the last week of February, for installation at the City EOC sites. The antennas have already been delivered. City RACES units should be scheduling their own local work parties now to assemble and install the antenna infrastructure. Skilled personnel should be available to terminate the two cable runs required with the PL-259 connectors.

Some issues remain with the desktop computers. Dell shipped desktop and secondary serial port cards, but most of the computers had incorrect brackets to hold the cards. Dell is shipping the parts needed to complete the assemblies.

At the next project work session, testing of the RF portion of the Winlink system will begin in concert with assembling the secondary serial card. At this session all of the radios and TNCs will be grouped for deployment, and from this point on the relationships between radios and respective TNCs will have to be maintained, for level compatibility. This session is pending delivery of the missing Dell parts. A quality-control inspection will be done to guarantee consistency in all matters.

Pin/tractor-feed printers will be used in this system in concert with software that will print received messages automatically.



OCRACES Applicant Don Cooke, AF6CV, Radio Officer Scott Byington, KC6MMF, and Assistant Radio Officer Chuck Dolan, KG6UJC (left to right) in OCS/Communications large conference room loading software on Winlink computers

Watching The Web

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

Nifty! Ham Accessories

<http://www.niftyaccessories.com/>



The Nifty! Ham Accessories Web site offers quick-reference, condensed, step-by-step, operating and programming radio pocket guides for Kenwood, Icom, Yaesu, Elecraft, and Ten-Tec transceivers and MFJ analyzers. Also offered are guides for scanners, operating on HF/VHF/UHF bands, monitoring, LDG tuners, PSK31, and D-STAR. Other products include HT belt-clip radio pouches, a Bandolier gear chest harness, and remote front-panel case.

The mini-manuals are laminated and spiral-bound booklets, 4.25 by 8 inches, providing simplified step-by-step setup instructions. They are more informational than simple key-function data charts. They are easy to read and color-coded to find information quickly. These short-form pocket guides are smaller, more durable, and easier to use than manuals normally supplied with a radio. They are water-resistant and rugged. The HT tri-folded cards are three-page foldout cheat sheets the size of a credit card, handy for keeping in a wallet, glove-box, suitcase, or go-bag. The mobile radio cards are the size of commonly used highway maps, 4 by 8 inches, for convenient storage in a car-door map-pocket or glove-box.

The *HF/VHF/UHF Bands Operating Guide* covers the most used bands and the various modes of operating and where they are found on each band. The HF bands section includes RTTY, PSK31, rare DX, DXpeditions, CW and SSB calling frequencies, QRP calling frequencies, propagation beacons, and more. The VHF/UHF bands section includes RTTY, digital, packet, weak signal, EME moon bounce, CW, SSB and FM calling frequencies, simplex, repeater and satellite sub-bands, propagation beacons, and ATV. Other useful operating information includes 60-meter band operating rules and restrictions, a quick look-up chart for commonly used Q codes, a simplified chart for giving RST signal reports, Web page references with useful resources for amateur operations, and a local-time to UTC conversion chart for properly logging QSOs.

The *DX Field Reference* gives a complete list of country prefixes, cross-indexed to ITU and CQ zones. It also contains world maps showing CQ and ITU zones. Also provided are NCDXF/IARU DX beacon network information, DX clusters and propagation reference, QSLing (routes, addresses, and bureaus), ITU and DXer phonetics reference, and commonly used Q-codes chart. This compact DX reference guide includes 16 laminated spiral-bound pages.

The *Radio Monitoring Guide* covers the most listened to frequencies from 0.5 to 500 MHz. It is a reference to short wave, police, fire, general and civil aviation, HF marine telephone, VHF marine, GMRS, FRS, and more. Blue Angel, Thunderbird, and civilian air-to-air and ground-to-air operational frequencies as well as space shuttle and international space station frequencies and NASA rebroadcasting stations are listed. Amateur radio HF DX propagation beacons plus maritime and other emergency and communication nets are covered. URLs are provided to Web sites offering current broadcast schedules, free SW listening tools and software, more in-depth information on aviation and maritime communications, military air communications, and more.

The *Nifty E-Z Guide to PSK31 Operation* gives a detailed step-by-step approach for configuring interface hardware, software, and computer system for PSK31 operation, using DigiPan software as a basis. Separate chapters are devoted to the installation and setup of three different PC-to-radio interfaces. The pros and cons of building a homebrew interface or purchasing several types of commercial interfaces are explored. Information is provided for setting up and operating PSK31 software. Screen shots of typical signals are provided, as well as standard QSO operating procedures and macro definitions.

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:

w6hk@ocraces.org

Fullerton

Fullerton RACES Radio Officer Gene Thorpe, KB6CMO, advises of two events that need amateur radio operators. The Donate Life 5K Run/1K Walk on Saturday, May 1, 2010, needs 25 hams. The Fullerton Airport Day event on Saturday, May 22, 2010, needs 20 hams. Contact Gene at kb6cmo@arrl.net.

Wayne Barringer, KB6UJW, Volunteer Communications Network of OC, made a presentation on emergency communications in Orange County (including QuakeNet 2010 and pre-exercise training) at the Fullerton Radio Club meeting on February 17th.

La Palma

La Palma Police Department is holding a RACES recruitment meet-and-greet on Thursday, March 11, 2010, at 6:30 PM. Current La Palma RACES members and RACES coordinators will explain the need and rewards of being part of the RACES group in La Palma. The meeting will be held at the La Palma Community Center, 7821 Walker Street. For more information, please contact Corporal Les Parsons at (714) 690-3385.

Orange

Two members of City of Orange Amateur Radio (COAR, the City's RACES unit), Robbie Robinson, KB6CJZ, and Ken Konecky, W6HHC, have been working on digital ATV for several months. They had provided a presentation on DATV and demonstration at the OCRACES January 4th meeting. Ken and Robbie have now reported that in mid-February they have transmitted the first cross-town DATV signals in Orange, from Ken's home to the roof of the Orange PD (about 3 miles). The 1.2 GHz DATV picture was perfect! More DATV field testing is planned.

San Clemente

Bob Nelson, KD6YPK, is now the Radio Officer for San Clemente RACES (part of Tri-Cities RACES).

Hospital Disaster Support Communications System

The annual HDSCS Orientation and Review Workshop will take place all day Saturday, March 6, 2010. A few seats are available for nonmembers wishing to learn all about amateur radio communications for hospitals.

Orange County

Ray Grimes, N8RG, has announced his resignation as Assistant Director, Engineering Section, OCS D Communications & Technology Division, effective on April 30, 2010. He has worked for the County of Orange for five years, after 32 years at Motorola, where he was a Senior Staff Engineer. He has enjoyed a long relationship with the County and its partner organizations as a former Motorola employee, an OCRACES member and former Chief Radio Officer, and currently as a Reserve Deputy Sheriff Lieutenant and co-founder of the Orange County Sheriff's Museum & Education Center.

Ray has moved forward a number of important initiatives for OCS D/Communications. We wish him and his wife Carol, WB6VMH (who is retiring as a chemistry professor), many enjoyable years of travel and the other joys of retirement life.

Kevin Sullivan, ex-K4SRV, Silent Key

It is with great sorrow that we share the news of the passing of OCS D Communications & Technology Division Engineer Kevin Sullivan, ex-K4SRV, who died unexpectedly on January 29, 2010, at Loma Linda University Medical Center.

Kevin started with the Communications Division in 1994 as a Communications Technician II, and his current assignment was Senior Telecommunications Engineer for the Radio Microwave Unit. Kevin will be missed, both for his exceptional technical skills and for his unusual humor.

March 2010

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 <i>OCRACES Meeting & Weekly ACS Net</i>	2	3 <i>SONGS Dress Rehearsal</i>	4	5	6
7	8 <i>Weekly ACS Net</i>	9	10	11	12	13 <i>EmComm Breakfast</i>
14	15 <i>Weekly ACS Net</i>	16 <i>Training: Documentation & Web-EOC, SASS</i>	17	18 <i>Plotter/Messenger/Hotline Training</i>	19	20
21	22 <i>Weekly ACS Net & SWACS Frequency Test</i>	23 <i>SONGS Graded Exercise</i>	24	25	26	27
28	29 <i>Weekly ACS Net</i>	30	31			

Upcoming Events:

- Mar 1: OCRACES Meeting, 1930, 840 N. Eckhoff St., Suite 104, Orange
- Mar 3: SONGS Dress Rehearsal, OC Fairgrounds (non-RACES)
- Mar 13: EmComm Breakfast, Katella Grill, Orange
- Mar 16: Documentation and WebEOC Training, 0800-0930, EOC
- Mar 16: Situation Analysis Support Staff (SASS) Training, 1000-1200, EOC
- Mar 18: Plotter/Messenger/Hotline Training, 0900-1200, EOC
- Mar 22: CaliforniaVolunteers Training for Volunteer Centers
- Mar 22: Southwest ACS Frequency/Radio Test, 2015
- Mar 23: SONGS Graded Exercise, OC Fairgrounds (non-RACES)



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

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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 Randy Benicky N6PRL Bill Borg KG6PEX Nancee Graff N6ZRB



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