Captain’s Corner
by RACES Captain Ken Bourne, W6HK, Chief Radio Officer

New Products of Interest to RACES

Rather than continue the series of AUXCOMM course units in my “Captain’s Corner” column that I began a couple of issues ago, I’ll publish the units as separate documents that will eventually be posted on the OCRACES Web site. The complexity of some of those units takes too much space in NetControl, and I wish to cover matters of more immediate interest in this column. Hence, in this issue, I will talk about recently introduced amateur radio products that would be of interest to RACES members. We are not endorsing any of these products, but just pointing out some interesting features.

First on the list is the new Elecraft K3S 160 through 6 meter transceiver. It succeeds the K3 that we have in the EOC RACES Room, by including an ultra-low-noise synthesizer, a built-in second receive preamp for 12, 10, and 6 meters (so a 6-meter preamp is no longer necessary), a USB computer port (in addition to the RS232 port) that integrates remote control and line-level audio (eliminating the need for a PC sound card and audio cables), a redesigned speaker amplifier (and added protection, should you accidentally plug a monaural connector into the stereo external speaker jack, which previously could blow the audio amplifier), and extended coverage on the soon-expected 630- and 2200-meter bands (with the KBPF3A option). http://www.elecraft.com.

I’ve been following the FreeDV comments on the “digitalvoice” Google Group, and the development by Dr. David Rowe, VK5DGR, and Rick Barnich, KA8BMA, of the SM1000 FreeDV adapter, which recently began shipping. It allows you to operate FreeDV digital voice on HF or VHF without a computer, by simply plugging into your SSB or FM transceiver. It generates the FreeDV signal for transmit and decodes FreeDV signals as well. It is based on an STM32F4 microcontroller, has a built-in microphone, speaker amplifier, speaker, and transformer-isolated radio interfaces. The SM1000 is open-source (hardware and software), including the Codec2 vocoder. It supports “analog pass through” that allows making SSB contacts without swapping microphones. Simply press the mode button and it’s DV; one more press and you’re back to SSB. An LED indicates microphone level clipping on transmit and errors on receive. http://www.rowetel.com.

Continued on page 2
MFJ introduced its MFJ-5005 Doppler direction finder at the recent Dayton Hamvention. It is very similar to the Global TSCM Group DDF2020T/GPS, and is ideal for use on our cooperative T-hunts. It allows you to locate distant signal sources at 100 to 1000 MHz. With its embedded GPS unit, the MFJ-5005 is capable of connecting to a laptop and drawing position plots in Google Earth with the accompanying Navi 2020 plotting program. The large LED display shows the signal in numerical degrees and also on the 36-LED circular ring. Connect it to an HT or mobile radio (do NOT transmit into it, to avoid zapping the PIN diodes in the antenna bases). The package includes a mobile mounting bracket, four magnet-mount bases with BNC connector (antennas not included), GPS antenna, cigarette-lighter power cable, audio cable, and software. http://www.mfjenterprises.com.

OCRACES has a 220-MHz repeater, but how many members have a transceiver for that band? Well, now’s your chance to get on 1¼ meters. Bridgecom Systems has introduced the BCM-220 mobile radio, which receives 219-288 MHz and transmits from 222.0 to 224.995 MHz. Power output is 30 watts maximum, using a Mitsubishi RF power amplifier. It features an alphanumeric display, front-panel speaker, and 512 memory channels. A Bluetooth mobile dongle kit may be added for extended out-of-vehicle range. Included in the package is the radio, DTMF microphone, mounting hardware, 12-volt power cable, and programming software and cable. A TCXO provides ±1.5 ppm frequency stability. A CTCSS/DCS encoder/decoder is included. Other features include DTMF ANI encoder/decoder, user-selectable squelch level, programmable home channel function, emergency call mode/open mic operation, rear-panel RS232 data port, and busy-channel lockout. http://www.bridgecomsystems.com.

The new FlexRadio Maestro is an intuitive, plug-and-play control console that directs operation of any FLEX-6000 Signature Series transceiver without the need of a traditional PC. It combines a high-definition 8-inch touch display with the most frequently used ergonomic radio controls. Occasionally used controls are accessible on the touch-screen display, bypassing the complexity of multifunction buttons and multi-level menus found on most transceivers. It features a real-time spectrum display and waterfall, with up to two simultaneous band displays. Included are independent A/B pass-band tuning, AGC-T, and audio controls. It provides full SmartSDR v2.0 compatibility. An optional battery pack with WiFi connectivity is available. http://www.flexradio.com.

Powerwerx introduced the TERA TR-590 dual-band VHF/UHF 200-channel handheld Part 90 commercial transceiver with user-programmable six-character alphanumeric display and true dual receive (V+V, U+U, V+U). Dual volume knobs control the main and sub-band receiver audio independently. Frequency range is 136-174 MHz and 400-470 MHz receive and transmit, covering commercial and amateur frequencies. It is preprogrammed for 16 business channels. Software keypad unlocking and reprogramming are available with the optional USB programming cable. http://www.powerwerx.com.
August 3rd OCRACES Meeting: Chip Margelli

The next OCRACES Meeting is on Monday, August 3, 2015, at 7:30 PM, at 840 N. Eckhoff Street, Suite 104, in Orange. Our guest speaker is Chip Margelli, K7JA, doing a presentation entitled, “Quick Deployment Antennas for EmComm and Field Day (Not Necessarily in That Order).” When the “normal” communications infrastructure falls apart in a natural or man-made disaster, we radio amateurs need to know how to deploy antennas quickly and these antennas need to work! Chip will discuss quick-deployment antenna concepts, antenna supports, and siting of antennas for maximum performance. Bring a note pad, because you’ll learn lots of useful tips for next year’s Field Day!

Chip has been licensed since 1963, and an Extra Class licensee since 1968. He and his wife Janet, KL7MF, live in Garden Grove. He is a Life Member of ARRL, AMSAT, and Quarter Century Wireless Association. For over 50 years, Chip has been active in DXing and, especially, international radiosport competition. Among his accomplishments are 12 First-Place finishes nationally in the ARRL November Sweepstakes and a number of world-high or national wins in the CQ World Wide DX Contest, ARRL DX Contest, and CQ WPX Contest.

Chip’s DXpedition activities include operations from St. Lucia, Dominica, Antigua, the U.S. Virgin Islands, Puerto Rico, Saipan, Micronesia, Aruba, Bonaire, Curaçao, Martinique, and Barbados. In 1984, Chip and Janet were invited by the Chinese Radio Sport Association to travel to Beijing for operation from BY1PK and help train the new Chinese operators during the early phases of the rebirth of amateur radio in China.

In 1989, Chip was honored by being selected to be the American representative in the first-ever Finish-Soviet-American DXpedition to Malajy-Vysotskij Island as 4J1FS. The following year, Chip and his teammate Mike Wetzel, W9RE, won a silver medal at the World Radiosport Team Championship held in conjunction with the Goodwill Games in Seattle, an elite competition featuring 23 teams from 15 countries around the world.

OCRACES Shows Van at HRO’s Ham Jam

OCRACES members exhibited their emergency communications response vehicle at “Ham Jam” in the Ham Radio Outlet parking lot in Anaheim on Saturday, August 11, 2015. Members enjoyed chatting with many old friends as well as prospective new members, and explaining the functions of the radio equipment installed in the van. OCRACES members at Ham Jam included John Bedford, KF6PRN, Chief Radio Officer Ken Bourne, W6HK, Radio Officer Scott Byington, KC6MMF, Martin La Rocque, N6NTH, Assistant Radio Officer Bob McFadden, KK6CUS, Fran Needham, KJ6UJS, Ken Tucker, WF6F, Tom Wright, KJ6SPE, and Applicant Dennis Bruning, KC6NVX. Also at Ham Jam was OCSO Communications & Technology Division Director Robert Stoffell, KD6DAQ.

This was the fourth annual Ham Jam. Others participating included Marc from ABR Industries, Will Jourdain from Icom, Phil Parton from Kenwood, Jim Einwalter and cameo appearance by Chip Margelli, K7JA, for Comet/Daiwa, Rick Ruhl from HRD, Tim Factor from Yaeu, and Gordon West, WB6NOA. These folks, reports HRO’s Janet Margelli, KL7MF, as well as ARRL, MFJ, Pryme Radio Products, RT Systems, and Powerwerx (Wouxun), contributed prizes for the drawings. HRO also welcomed the ARRL, the San Diego Six Shooters, Motorcycle Amateur Radio Club (MARC), West Coast ARC, WARA, and SOARA clubs, as well as TASMA, OCRACES and its van, the Anaheim RACES trailer, and April Moell, WA6OPS, and Joe Moell, K0OV and the Hospital Disaster Communications System (HDSCS, celebrating their 35th year), and Scott Bovitz, N6MI, and his retired news van with 60-foot pneumatic mast (working IARU from the parking lot). Eagle Scouts served hot-dog lunches and benefitted from the donations of many hungry hams. Janet extends her thanks for a great event.
KR6AFT Hides in Huntington Beach

At Buon Gusto are (left to right) Delia Kraft, KR6AFT, Nick Condaras, KD3QY, and Patrick Williams, KJ6PFW.

Rick Bowen, W6RTR (left), and Bill Rose, KA6HMS, enjoy good food and conversation after the hunt.

OCSD Communications & Technology Division Program Support Manager Delia Kraft, KR6AFT, was the fox on Monday, July 13, 2015, on the monthly cooperative T-hunt. She turned on the fox box at about 7:20 PM at Buon Gusto Italian Cuisine & Deli near the northwest corner of Warner Avenue and Bolsa Chica Street in Huntington Beach. With Delia was Division Senior Engineer Nick Condaras, KD3QY, who is a part owner of the restaurant. Hunters enjoyed a sumptuous dinner at the restaurant after they found the fox.

Richard Saunders, K6RBS, from Mission Viejo, was the first hunter to find the fox. Next was Ron Allerdice, WA6CYY, from Costa Mesa. Coming in third was the MESAC team, consisting of Patrick Williams, KJ6PFW, and Eric Bowen, W6RTR, along with Bill Rose, KA6HMS, from Huntington Beach RACES. The next team consisted of OCRA-CES Applicants Dennis Brunning, KC6NVX, and Matt Curtis, KC6NVN, along with their friend Adam. Next was Bob McFadden, KK6CUS, from OCRACES. The sixth team consisted of Ken Bourne, W6HK, from OCRACES, along with his son Don Bourne, KB6TVK. All hunters arrived before 8:05 PM. The fox box remained on past 9:00 PM, in case anyone else was still hunting.

The next cooperative T-hunt will be held on Monday, August 10, 2015, immediately following the OCRACES 2-meter net (approximately 7:20 PM). The fox will transmit on the input (146.295 MHz) of the 146.895 MHz repeater. Hunters will compare bearings via the 449.100 MHz repeater, and are encouraged to beacon their positions via APRS throughout the hunt. The fox will hide in a sector of Orange County to be announced a few days before the hunt. The location will be on paved, publicly accessible property. No fees will be required to drive directly to the fox.

The cooperative T-hunts provide excellent practice in working together to find the source of interference. The hunts are not official RACES events, so DSW (Disaster Service Worker) coverage does not apply. Please drive carefully!

Fox-hunt loops and beams are available from Arrow Antenna and HRO. A 4-MHz offset attenuator, also available from Arrow Antenna and HRO, can be useful when close to the fox, to prevent receiver overload. An all-mode transceiver is quite useful, allowing hunters to switch to the SSB or CW mode for detecting extremely weak signals, or to switch in a built-in attenuator, reduce RF gain, or tune slightly off frequency when dealing with extremely strong signals. Some hunters use the DF2020T radio direction finder kit, which is a Doppler system available from Global TSCM Group, Inc. (http://www.kn2c.us). A very similar system is the new MFJ-5005 Doppler direction finder. Other useful tools are the Foxhunt app for iPhones and the Triangulate app for Android phones. For some excellent information on T-hunting, see http://www.homingin.com.
KB6GPM Becomes OCRACES Member

Welcome to Brad Russo, KB6GPM, who is now a member of County of Orange RACES. Brad earned his Novice Amateur Radio License in 1983, and upgraded to Technician class in 1984. While working at Disneyland, he served as president of the Disneyland Amateur Radio Club from 1984 through 1994, overseeing many firsts for the organization. In 1988 he coordinated the first-ever Field Day site setup at Disneyland, USA. The 5B station backstage on the mezzanine of the Disneyland Cast Center logged more than 800 contacts. In recognition of the occasion, a commemorative QSL card was sent to each of the contact recipients made during the event.

1988 also brought the ARRL Southwestern Division HAMCON to Orange County to be held at the Disneyland Hotel. Brad was approached by OCCARO (Orange County Council of Amateur Radio Organizations) and asked to serve as the Program Chairman for the event and to have the Disneyland Amateur Radio Club be the official event host. Working with OCCARO, Brad negotiated with the Hotel’s convention staff and secured the venue for the event. He also coordinated with the Walt Disney Studio’s creative and marketing departments to modify the Disneyland Amateur Radio Club’s logo to be adapted as the official logo for the event. He also coordinated with the Walt Disney Studio’s creative and marketing departments to modify the Disneyland Amateur Radio Club’s logo to be adapted as the official logo for the event.

In 1991 Brad joined the Boy Scouts of America as an adult volunteer when his son Steven became a Cub Scout. Brad could usually be found surrounded by Cub and Boy Scouts either working third-party traffic on 10 meters and 2 meters SSB or listening to Space Shuttle rebroadcasts on the JPL repeater, but most often he would be teaching the boys how to send SOS and their names in Morse code. As his son grew older and moved into Boy Scouting, there were many all-nighters at Summer Camp huddled around a campfire where Brad would be shortwave listening and practicing Morse code with a dozen or so Scouts working on their Radio Merit Badge requirements.

In 2001 Brad left Disneyland to pursue his design and consulting business. In 2002 he upgraded to General Class and joined Costa Mesa RACES (MESAC) and began working part time at Ham Radio Outlet in Anaheim. In 2003, Brad was elected to the MESAC Board as Vice president of Technical. Shortly thereafter he became VE (Volunteer Examiner) with the W5YI Group. In 2005 Brad upgraded to Amateur Extra Class and also became a CVE (Contact Volunteer Examiner) with the W5YI Group. He was also elected Chief Radio Officer for MESAC, serving two terms until 2007. Also in 2007 at the encouragement of David Corsiglia WA6TW, Brad applied for a Telecommunications Technician II position with the Orange County Sheriff’s Department, Communications Division, and was hired into the Dispatch Systems Unit where he worked until being promoted to Telecommunications Engineer III in the Mobile Systems Unit in 2011. In his current role, Brad supports the Mobile Shop and the County’s fleet of mobile and portable radios. Brad has been a long-time supporter of Amateur Radio and RACES.

WB6HMW Becomes OCRACES Member

Welcome to Roger Berchtold, WB6HMW, who recently passed background and is now a member of County of Orange RACES. Roger earned his Technician Class license in 1964. Amateur television sparked his interest in 1972. He built a collinear antenna for 434 MHz. He built a 5-watt 434-MHz ATV transmitter with an amateur friend in 1972. He retuned a battery-driven UHF converter as the front end. ATV back then was simplex and black and white. Because of the hills and mountains to the north and south of his QTH, Roger could only work two ATV stations—one in Palos Verdes and the other in Brea. Roger was a member of the Hughes Aircraft Amateur Radio Club in Fullerton while having a family. In 2012, he retired and joined the Western Amateur Radio Association (WARA). He upgraded his license to General Class in 2012, and Extra Class in 2013. Roger returned to amateur television activities because of the Santiago Peak repeater. Today, he is an active member of the Amateur Television Network, W6ATN. In 2014, Roger decided to perform volunteer activities and is now accepted into OCRACES.
RACES/MOU News from Around the County

Anaheim RACES
Adriana Goodin, Administrative Analyst—Emergency Manager, Anaheim Fire & Rescue, is now the Anaheim RACES Program Coordinator.

Costa Mesa RACES (MESAC)
The City of Costa Mesa Emergency Services Amateur Communications (MESAC) will have a booth at the Costa Mesa Police Department National Night Out event on Tuesday, August 4, 2015, at 5:00 PM, in the Target parking lot at 3030 Harbor Boulevard. The booth will display various radios used in emergency communications. MESAC members will be on hand to answer questions about ham radio and their role in assisting the Costa Mesa Police Department during times of emergency.

Fountain Valley RACES
Upcoming activities for Fountain Valley RACES include National Night Out on Tuesday, August 4, 2015, and Annual Campout in the Park on Saturday and Sunday, August 8-9, 2015.

Tri-Cities RACES
The 2015 City of Dana Point Emergency Expo will be held on Saturday, August 22, 2015, from 10:00 AM until 2:00 PM at the Dana Hills High School, 33301 Golden Lantern, in Dana Point. Featured will be the Orange County Fire Authority, Orange County Sheriff’s Department, SWAT, Bomb Squad, Coast Guard, and helicopters.

Westminster RACES
Sgt. Jim Kingsmill, Westminster Police Department, Traffic Division/Code Enforcement/Special Operations, announced that their new Emergency Management Coordinator is Denise Davis.

Orange County SKYWARN
Orange County SKYWARN was busy during the month of July. On July 1, 2015, OC SKYWARN Coordinator Scott O’Donnell, WX6STO, notified members that NWS San Diego anticipated activating all SKYWARN areas, including Orange County. Spotters were requested to report significant weather via computer, such as wind damage, rain total, urban flooding, debris flow, etc. However, activation did not occur that day.

Scott activated OC SKYWARN on July 18th, due to a line of thunderstorms heading up from the south. SKYWARN staff monitored the 448.040 MHz Santiago Peak repeater. Deactivation occurred a few hours later.

The next day, July 19th, NWS San Diego requested OC SKYWARN spotters to be on standby for a possible activation in late afternoon. Thunderstorms were starting to develop over the Southern California mountains, including the north end of the Cleveland National Forest in Orange County. Flash flooding was possible under heavy rainfall, especially in and below burn areas. Activation occurred at 1548 hours. Rain was significant, and mud flows caused a closure of Silverado Canyon Road. Scott announced at 0604 on July 20th that NWS had deactivated OC SKYWARN.

County of Orange
Congratulations to OCSD Assistant Emergency Manager Raymond Cheung, who received his Technician Class amateur radio license on May 21, 2015. He immediately applied for and received the vanity call sign of K6RKC, issued on June 9, 2015. Raymond works in the OCSD Emergency Management Division at the Orange County EOC.

Congratulations to OCSD Control One Supervisor Lee Kaser, who passed his Technician Class amateur radio license exam on July 11, 2015. His new call sign is KK6VIV, issued on July 17th.
August 2015

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1 Weekly 40 m ACS Net
8 Weekly 40 m ACS Net
15 Weekly 40 m ACS Net
22 Weekly 40 m ACS Net
29 Weekly 40 m ACS Net

County of Orange RACES Frequencies

40 m: 7250 kHz SSB (City/County/MOU Net—Saturdays, 1000 hours)
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: 1287.650 MHz, 1287.675 MHz, 1287.700 MHz, 1287.725 MHz
1287.750 MHz, and 1287.775 MHz outputs, –12 MHz inputs, 88.5 Hz PL
*Primary Net—Mondays, 1900 hours

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.

Upcoming Events:

- **August 3:** OCRACES Meeting, 840 N. Eckhoff Street, Suite 104, Orange, 1930
- **August 10:** Cooperative T-Hunt, 1920; fox will transmit on input of the 146.895 MHz repeater, and hunters will compare bearings via the 449.100 MHz repeater
- **August 24:** Southwest ACS Frequency/ Radio test, 2015
- **September 11-13:** ARRL Southwestern Division Convention (HAMCON), Torrance Marriott South Bay Hotel, 3635 Fashion Way, Torrance
- **September 21:** City/County RACES & MOU Meeting, 840 N. Eckhoff Street, Suite 104, Orange, 1915
- **October 3:** City/County RACES & MOU Drill, 0900-1100
- **October 18:** OCSD Reserve Bureau Picnic, Irvine Lake
- **November 17:** Mutual Agency Regional Radio Interoperability Training Exercise (MARRITE)

County of Orange RACES

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Harvey Packard, KM6BV

Assistant Radio Officers (Sergeants)
Jack Barth, AB6VC
Ernest Fierheller, KG6LXT
Bob McFadden, KK6CUS
Tom Tracey, KC6FIC