February 2020

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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Next OCRACES Meeting:

Monday, February 3, 2020, at 1930 Hours

840 N. Eckhoff Street, Suite 104, Orange

Basic NWS SKYWARN

Orange County Sheriff's Department
Communications & Technology Division

Captain's Corner

by RACES Captain Ken Bourne, W6HK, Chief Radio Officer

Sounding Good!

A few years ago on a Sunday morning 6-meter AM net on 50.4 MHz that I used to check into after church, a ham in Orange County was checking in each week, using an old Heathkit Seneca 6 and 2 meter AM transmitter. It produced some of the best audio I ever heard—extremely crisp, clear, communications-quality audio that sliced through any noise that appeared on frequency. I think he was using an Astatic D-104 microphone with a high-impedance crystal element that had a high frequency response. The ham portrayed himself as experienced in broadcast audio engineering and said he was determined to home-brew a 6-meter AM transmitter that would sound even better than his Seneca.

Well, he did it! (Sort of!) He finally came on the air with his new homebrew transmitter and then spent several weeks tweaking the design of his modulator stage, referring to reports from hams checking into the net. Finally, the net control operator, who also claimed to be somewhat of an audio expert, declared the transmitter sounded great, with clear, professional frequency response like that of a broadcast station. However, I was highly disappointed. His audio was clean, but he lost the crisp high-frequency response that was produced by his Heathkit Seneca. He was now emphasizing lower audio frequencies, giving him a deep broadcast quality, but not what you would call communications quality in noisy conditions. Unfortunately, hams on the net were giving him good audio reports, without recalling how good he used to sound with the Seneca.

Heathkit Seneca 6 and 2 meter transmitter.

Adding to his problem was switching to a different microphone, to accommodate the lower input impedance of his new modulator stage. He lost the crispness of his D-104's tailored frequency response when he chose an expensive broadcast/entertainment-quality microphone with a very wide frequency response. Many hams think they will sound better with studio-quality microphones, but often all they need is an inexpensive microphone and careful adjustment of a transmit audio equalizer that is either built into their transceiver or is added as an outboard unit.

The Elecraft K3 transceiver in the Orange County EOC RACES Room provides eight bands of transmit (and receive) audio equalization to compensate for microphone and voice variations. Some other modern transceivers have similar audio equalization. If your microphone does not have adequate treble response, you can compensate for that by increasing the level in the upper audio frequency bands. If your transceiver has a voice monitoring feature, you can adjust your audio frequency response (per each audio band) while listening to

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W2IHY 8 Band audio equalizer and noise gate.

your signal, preferably while using headphones to avoid feedback.

Most older HF transceivers do not include transmit (or receive) audio equalizers. Even some modern transceivers do not include equalizers, but only have simple bass and treble adjustments. In such cases, I recommend adding an equalizer such as the W2IHY 8 Band audio equalizer and noise gate or the MFJ-655B hamProAudio microphone equalizer/conditioner.

Both eight-band audio equalizers also eliminate or reduce background noises. They will also match practically any microphone of any impedance to practically any transmitter's microphone input. The wide-range input level to the equalizer may be adjusted for optimum drive to the built-in microphone amplifier. The output may be adjusted for the ideal signal level to the transmitter for best performance of microphone gain, ALC, compression, and smooth VOX operation.

To configure your equalizer, first select the appropriate impedance for your microphone. With the W2IHY unit, while speaking into your microphone, adjust the microphone input gain until the red MIC LED on the front panel just barely lights up. With the MFJ-655B, while speaking into your microphone, adjust the VU SET control for a zero VU meter reading on voice peaks. The microphone output level control lets you adjust the audio level to your transmitter's microphone jack. You will use the slide pots on the W2IHY equalizer or the knobs on the MFJ-655B equalizer to increase (boost) or decrease (cut) the audio signal level at various audio bands. The equalizer gives audio a desired "personality" and is a corrective tool to overcome microphone frequency response excesses or deficiencies.

The center frequencies of the eight audio bands are approximately 50, 100, 200, 400, 800, 1600, 2400, and 3200 Hz. An eight-band equalizer gives you virtually limitless options in shaping and fine-tuning your transmit audio, boosting or cutting the individual bandpass frequencies by ± 16 dB.

Using the Elecraft K3's built-in eight-band equalizer, some recommendations for most mics call for lowering bands 1 and 2 to –16 dB, reducing band 3 by about –6 to –10 dB, and setting the remaining bands flat (0 dB). Excessively bright mics might need some reduction of bands 7 and 8. Typical professional mics (with lower-frequency emphasis preferred by entertainers) would need full gain reduction (–16 dB) on bands 1, 2, and 3, about 6 dB reduction on band 4, about 6 dB increase on band 7, and about 10 dB increase on band 8. With non-professional mics, avoid increasing gain on any audio band to prevent DSP clipping.

W2IHY recommends that you begin by setting all eight equalizer levels to 0 dB (per the calibrations on the W2IHY case or 12 o'clock on the MFJ knobs). Start your adjustments at the highest audio frequency (3200 Hz) and, one by one, move to the next lowest frequency band. MFJ recommends that you first reduce your speech energy below 500 Hz by reducing the first four bands to –16 dB. These frequencies contribute only 4% of intelligibility but have 55% of the speech energy. Then increase the 400 Hz band to almost 0 dB. Next, increase your speech energy above 1000 Hz. These frequencies contribute 48% of intelligibility but have only 4% of speech energy. Do this by increasing the last four bands to + 16 dB. You may need to decrease the 800 Hz center frequency. Then experiment by boosting and cutting each frequency range. During all of these adjustments, always adjust the output level to avoid overdriving your transmitter.

I prefer the K3 adjustment recommendations, with no gain increases on any bands. Although equalizer amplifiers are designed to introduce extremely little distortion, any amplifier has some inherent distortion, so I avoid amplifying any of the eight bands, if possible.

The noise-gate feature on the W2IHY and MFJ units reduces or eliminates background noises such as blower or fan noise from a linear amplifier, people talking while visiting a ham shack, and mobile road noise. The noise gate operates in conjunction with the level control, which sets the threshold at which the unit responds. The noise gate removes audio signals with energy levels lower than the value established by the threshold. It also makes VOX operation smoother by reducing VOX trips from the radio's speaker and extraneous noises in the shack.

MFJ-655B hamProAudio microphone equalizer/conditioner.

Feb. 3rd OCRACES Meeting: Weather Training

Adam Roser from the National Weather Service in San Diego will give a 1-hour training session on basic NWS SKYWARN at the next OCRACES meeting. He will have several informative hand-outs. All RACES members are encouraged to be weather spotters, supplementing their overall response capabilities. Weather is fascinating, and you will learn how to identify and describe severe local storms, and how to report conditions with accuracy. This meeting will be on Monday, February 3, 2020, at 7:30 PM, at OCSD/Communications, 840 N. Eckhoff Street, Suite 104, in Orange.

City/County RACES & MOU Meeting: Feb. 10th

The next City/County RACES and MOU meeting will be on Monday, February 10, 2020, at 7:30 PM, at OCSD Communications & Technology Division, 840 N. Eckhoff Street, Suite 104, in Orange. At this meeting we will begin planning for the ACS Radio Rodeo exercise, which will occur on Saturday, May 2, 2020, from 9:00 AM to 11:00. At that exercise, city RACES and MOU units will set up their mobile communications command posts and portable stations, probably in the back parking lot of OCSD/Communications near Eckhoff Street in Orange. The first hour of the exercise will be spent testing local and local-to-EOC communications. The second hour will consist of inspections of local stations while OCRACES communicates with Cal OES CRU on 60 meters and on various VHF/UHF repeaters and linked systems. Suggestions are invited for other components to be added to the exercise.

Coronavirus Case Occurs in Orange County

The Orange County Health Care Agency's (HCA) Communicable Disease Control Division was notified by the Centers for Disease Control and Prevention (CDC) on January 26, 2020, that an Orange County case has tested positive for the novel coronavirus, which originated in Wuhan, China. The case, a traveler from Wuhan, has been in contact with HCA and was provided guidance in order to reduce exposure to the public while awaiting laboratory confirmation from the CDC. The individual has now been transported to a local hospital and is in isolation in good condition.

In consultation with the CDC and the California Department of Public Health, HCA is following up directly with all individuals who have had close contact with the case and are at risk of infection. HCA will be monitoring any close contacts and assuring that proper evaluation and care is provided if they become ill. The CDC's guidance indicates that people who have casual contact with a case are at minimal risk of developing infection.

There is no evidence that person-to-person transmission has occurred in Orange County. The current risk of local transmission remains low, according to HCA. OCRACES is prepared to assist with communications between the HCA EOC and the Orange County EOC, in the unlikely event that the situation would escalate.

PSRs Supplement Services Provided by OCSD

by Charlie Bayhi, OCSD PSR Executive Director

The Orange County Sheriff's Department (OCSD) provides Law Enforcement support to 13 Contract Cities and all unincorporated areas of the county, as well as John Wayne Airport and three Harbors. Professional Services Responders (PSRs) are a functioning unit of the Reserve Bureau, which is a part of the Mutual Aid Bureau. Approximately 175 individuals, with backgrounds in Industry, Commerce, Law Enforcement, Medical, Legal and many other areas, contribute their knowledge and expertise to supplement and complement the services provided by OCSD.

PSRs provide a variety of support to the Contract Cities, John Wayne Airport, and Harbor Patrol. Specialty Units, staffed by PSRs, support the SE Substation, Fire Watch, Aero Squadron, and the Investigative Reserve Unit. In addition to these Specialty Units, some of the many PSR activities are Traffic Control, Vacation Home Checks, Citizen Patrol, "Actors" for specialized OCSD Field Training, OCSD Vehicle relocation, as well as many more not described here.

Uniforms are provided, as well as PSR minimum training to include CPR, Traffic Control, and Radio Procedure. In addition, each Specialty Unit/City will provide any specific training to support its functional responsibilities.

As a PSR volunteer you will be able to apply many of your areas of expertise, or you may choose to develop knowledge and experiences in some other area. Time commitments are your choice and you can choose your venue, or, as many PSRs do, you can choose multiple venues.

Automatic Power Off Turns Radio On and Off

As a follow-up to the "Captain's Corner" article in December 2019 *NetControl* about the MFJ-4402 mobile transceiver protector, OCHEART Coordinator David Gorin, KB6BXD, alerted us to the APRS World APO3 Automatic Power Off. This device prevents a vehicle's battery from being discharged and damaged by a DC load. Typically, it is used to switch a transceiver off 10 minutes after the vehicle is shut off. Ideal for use with mobile APRS stations, the APO3 allows the radio to transmit a few position reports after the vehicle is shut off and then it turns off the radio and GPS to reduce clutter on the APRS frequency and prevent the vehicle battery from discharging.

APRS World APO3 Automatic Power Off

The APO3 is basically a voltage-controlled switch. When the vehicle voltage is higher than the APO3 set point, the relay is turned on and power is provided to the load side. When the voltage drops below the APO3 set point and stays there for longer than the time set point, the relay turns off and power is removed from the load side.

Using the factory default settings, the APO3 will turn on the load when the vehicle voltage rises above 13.05 volts. This typically occurs within a few seconds of starting the vehicle. The load remains powered as long as the engine is running. When the engine is shut off, the vehicle voltage sinks below 13.05 volts. The APO3 waits until the voltage has been less than 13.05 volts for 10 minutes and then turns the load off. A yellow LED indicates status.

The APO3 is designed for 12-volt vehicle electrical systems with negative ground. It can switch up to 20 amperes and carry up to 30 amperes. The shutdown voltage can be set to one of four pre-programmed voltages (11.8, 12.1, 12.7, and 13.05 volts), using two DIP switches. The shutdown delay can be set to one of four preprogrammed times (0, 5, 10, and 20 minutes). A slide switch can be used to turn the load on regardless of the input voltage.

The APO3 is available with bare wire leads, Powerpole connectors, or OEM radio connector.

OCSD/EMD Offers Training Classes at EOC

OCSD Emergency Management Division (EMD) says as Disaster Service Workers we may be called upon to participate in exercises for preparedness or activation by the County Emergency Operations Center (EOC) in the event of a disaster. Training opportunities are available to acquaint you with the EOC, the California State mandated Standardized Emergency Management System (SEMS), as well as your role during emergencies and exercises.

EMD has released a training schedule of offered courses through June 2020. Courses for February and March are listed below. Download course descriptions and registration form from https://ocraces.org/forms.html. E-mail the registration form to Michelle Baldwin at mbaldwin@ocsd.org. Confirmation for training and a map to the EOC will be sent to you by e-mail upon receipt of your approved registration. If you have not received confirmation within one week of the training date, please e-mail Michelle.

The courses offered for February 2020 at the Orange County EOC include:

- **WebEOC 8.0/JIMS 8.0**—Support Center; Tuesday, February 11, 10:00 AM to 12:00 PM.
- **Care and Shelter Branch Training**—Operations Center; Thursday, February 13, 9:00 AM to 11:00 AM.
- **Situation Analysis Support Staff Training**—Operations Center; Wednesday, February 19, 9:00 AM to 11:00 AM.
- **Recovery**—Operations Center; Thursday, February 20, 1:30 PM to 3:30 PM.
- **Intro to SEMS, NIMS, ICS, and EOC Orientation**—Operations Center; Tuesday, February 24, 1:30 PM to 3:30 PM.
- **AlertOC Training**—Support Center; Wednesday, February 26, 9:00 AM to 11:00 AM.

The courses offered for March 2020 at the Orange County EOC include:

- **AlertOC Training**—Support Center; Tuesday, March 10, 1:30 PM to 3:30 PM
- **WebEOC 8.0/MIMS 8.0**—Support Center; Wednesday, March 11, 1:30 PM to 3:30 PM
- **San Onofre Nuclear Generating Station Emergency Planning Overview**—Support Center; Thursday, March 19, 1:30 PM to 3:30 PM
- **EOC Response: Action Planning, Information Analysis, Situation Awareness**—Operations Center; Tuesday, March 24, 9:00 AM to 12:00 PM

K6PIO Hides in Irvine

Laguna Woods RACES Deputy Radio Officer John Pilger, K6PIO, was the fox on the monthly cooperative T-hunt on Monday, January 20, 2020. He hid the fox box in the Quail Hill Shopping Center in Irvine, near the I-405 Freeway and Sand Canyon Avenue.

At the fox's den are (left to right) Ron Allerdice, WA6CYY, John Pilger, K6PIO (the fox), Richard Saunders, K6RBS, Mark Warrick, KM6ZPO, Julie Warrick, KN6AOC, and Roger Kepner, W6SQQ.

Richard Saunders, K6RBS, got a quick Doppler bearing when John checked into the OCRACES net before the hunt, which gave Richard a head start in the right direction, enabling him to be the first to find the fox. Next to come in was Ron Allerdice, WA6CYY. Ron had a good bearing to the east from Culver Drive and University Drive and quickly found the fox. Ken Bourne, W6HK, and Roger Kepner, W6SQQ, had a frustrating time. They started near the I-5 Freeway on Sand Canyon Avenue and did not detect any signal from the fox. When Ron reported a good signal at Culver Drive and University Drive, Ken and Roger headed up the I-5 and began picking up a good signal around Jeffrey Road. They headed down Culver Drive to University Drive and turned east with an excellent bearing, eventually ending up in the Kaiser Permanente parking lot north of the I-405 Freeway. The signal was so strong there that they were convinced the fox was in that parking lot—but he was actually just across the Freeway in the Quail Hill Shopping Center. Ken then received a cell-phone call from Randy Benicky, N6PRL, who was tracking Ken's APRS beacon and offered to lead him to the fox, where WA6CYY was APRS-beaconing. Ken and Roger also saw Ron's beacon and were going to head that way, but Ken decided to follow Randy's helpful directions. Unfortunately, APRS beacons do not update immediately on the https://aprs.fi map. That and the confusing roundabout at Laguna Canyon Road and Quail Hill Parkway caused Ken to drive out of the area. Richard, K6RBS, then came on the 448.320 MHz coordinating repeater and talked Ken and Roger in. Shortly after that, OCRACES Applicants Mark and Julie Warrick, KM6ZPO and KN6AOC, arrived, using their new Arrow loop antenna.

The next hunt will be on Monday, February 17, 2020, immediately following the OCRACES 2-meter net (approximately 7:20 PM). The fox will hide on paved, publicly accessible property in a city or sector of Orange County to be announced a few days before the hunt. He will transmit tones on the input (146.295 MHz) of the 146.895 MHz repeater. Hunters will compare bearings via the 448.320 MHz repeater and are encouraged to beacon their positions via APRS while hunting. We are looking for a volunteer to be the fox.

The cooperative T-hunts are usually held on the third Monday of each month (except in October). The hunts are not official RACES events, so DSW (Disaster Service Worker) coverage does not apply. Please drive carefully!

To keep our cooperative T-hunts active, we need to have more participants. RACES members are urged to equip themselves with direction-finding equipment and be ready to find sources of interference to RACES repeaters and to VHF public-safety communications. These hunts provide excellent practice in working together to find such interference—plus they are great fun!

Phishing Scam Defrauds Radio Club Member

A member of an amateur radio club in Southern California was defrauded of several hundred dollars in January 2020 by a scammer who impersonated an officer of that club and asked for money via gift cards for a "charity." The scammer signed their e-mail with the club president's name and title, but the reply-to address was not the same as the officer's actual e-mail address. The scammer also said they couldn't be reached by phone because they were in a no-signal area. A similar incident involving the club took place 18 months ago. That time, no one was duped, but it raised many questions.

Several radio clubs in the greater Los Angeles area have reported similar incidents. These reports describe false e-mails as though coming from club presidents. Members of clubs and RACES units are urged to be cautious.

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 and supportive amateur radio clubs in Orange County.

Please send your news to *NetControl* Editor Ken Bourne, W6HK, at:

kbourne.ocsd@earthlink.net

Anaheim RACES

Anaheim Emergency Manager Sagar Patel reports that Alicia Escobedo is the Anaheim RACES Program Coordinator. Michael ("Ducky") Breton, KW6ACK, is now the Chief Radio Officer, and Jonathan Ramos, W6TFK, is the Assistant Chief Radio Officer.

Barry Gilbert, AF6XY, Silent Key

We are very sad to report that Anaheim RACES Member Barry Gilbert, AF6XY, passed away on December 24, 2019. Barry had frequently represented Anaheim RACES at OCRACES meetings.

Buena Park RACES

Don Piantoni, WA6NFO, has been appointed Chief Radio Officer of Buena Park RACES. He has been a volunteer for the Buena Park Police Department for 21 years and a RACES member during those years. Lloyd Martin, KM6PRA, is now the Assistant Radio Officer. Grahame Emerson, AD6GE, is now the Alternate Radio Officer. Sgt. Mario Escamilla is now the Buena Park RACES Program Coordinator.

Costa Mesa RACES (MESAC)

Jason Dempsey, Emergency Services Administrator, city of Costa Mesa Police Department, is now the Costa Mesa RACES Program Coordinator.

Fountain Valley RACES

Fountain Valley RACES Chief Radio Officer Alan Hill, W6ARH, advises that the Assistant Radio Officer for 2020 is Garry Jones, N6NQN.

Huntington Beach RACES

Jim Hansen, KG6ZDP, is the Huntington Beach RACES Chief Radio Officer. Greg Turlis, K6GAT, is the Assistant Chief Radio Officer. Brevyn Mettler, KI6FRG, Fire Department, is the RACES Program Coordinator.

Los Alamitos RACES

Los Alamitos Emergency Services Coordinator Robert Acosta is the city's RACES Program Coordinator. The Radio Officer is Michael Peer, WD6CDN. The Assistant Radio Officer is Art Remnet, KM6RSY.

Orange RACES (COAR)

COAR Chief Radio Officer Will Stoddard, KJ6IA, reports that Don Poysa, KØVNJ, and Cliff Guice, KG6MIG, are the Assistant Radio Officers.

Placentia RACES

Placentia RACES Program Coordinator Steve Torrence, Emergency Services Coordinator—Emergency Services Division, Placentia Police Department, has accepted an offer from the City of Santa Monica to lead the Office of Emergency Management as their new Emergency Services Administrator.

Seal Beach RACES

Seal Beach RACES has a new Coordinator: Cpl. Joe Garcia, Seal Beach Police Department. Mark Stanford, W6MCS, is the Chief Radio Officer and Dick Crowe, KG6XJ, is the Assistant Radio Officer. They also have an attractive new website at https://races41.com.

Westminster RACES

Westminster RACES Program Coordinator Ellen Lopez, KF6PWV, reports that Sgt. R. Weber is now the Coordinator II and Adam Valek, N6HVC, is the Assistant Radio Officer. Chi Nguyen, KE6MVS, is the Radio Officer.

Orange County Amateur Radio Club (OCARC)

The next OCARC meeting is at 7:00 PM, at the American Red Cross (George M. Chitty Building), 600 Parkcenter Drive, in Santa Ana. Enter at the west door.

February 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Weekly 60 m ACS Net
2	3 Weekly 2 m ACS Net & OCRACES Meeting	4	5	6	7	8 Weekly 60 m ACS Net
9	10 Weekly 2 m ACS Net & City/County RACES Mtg	11	12	13	14 Valentine's Day	15 Weekly 60 m ACS Net
16	17 Weekly 2 m ACS Net & Cooperative T-Hunt	18	19	20	21 Orange County Amateur Radio Club Meeting	22 Weekly 60 m ACS Net
23	24 ACS Net on Four Bands & Cal OES Nets	25	26	27	28	29 Weekly 60 m ACS Net

Upcoming Events:

- **February 3:** OCRACES Meeting, 1930 hours, 840 N. Eckhoff Street, Suite 104, Orange
- **February 10:** City/County RACES & MOU Meeting, 1930 hours, 840 N. Eckhoff Street, Suite 104, Orange
- **February 14:** Happy Valentine's Day
- **February 17:** Cooperative T-hunt, 1920 hours
- **February 21:** Orange County Amateur Radio Club (OCARC) Meeting, 1900 hours, American Red Cross (George M. Chitty Building), 600 Parkcenter Drive, Santa Ana

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

60 m: 5371.5 kHz USB (dial) (Channel 4) (OC ACS Net—Saturdays, 1000 hours)
40 m: 7250 kHz LSB
10 m: 29.640 MHz output, 29.540 MHz input, 107.2 Hz PL (out of service)
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: 146.595 MHz simplex
1.25 m: 223.760 MHz output, 222.160 MHz input, 110.9 Hz PL (out of service)
70 cm: 446.000 MHz simplex
70 cm: 448.320 MHz output, 443.320 MHz input, 141.3 Hz PL (private)
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)
70 cm: 449.680 MHz output, 444.680 MHz input, 131.8 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

OCSD Emerg. Comm's Coordinator
Pete Jimenez, KI6UTE, 714-704-8080

OCSD Sr. Telecommunications Engr.
Erik Schull, KE6BVI, 714-704-7937

Chief Radio Officer (Captain)
Ken Bourne, W6HK, 714-997-0073

Radio Officer (Lieutenant)
Scott Byington, KC6MMF

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

County of Orange RACES

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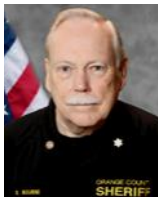
https://ocraces.org
It's Where It's @!

Questions or Comments?
Contact *NetControl* Editor Ken Bourne, W6HK
kbourne.ocsd@earthlink.net

"W6ACS ... Serving Orange County"

Meet Your County of Orange RACES Members!

Officers

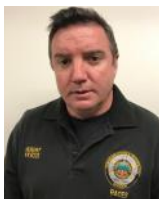


Ken Bourne
W6HK

Scott Byington
KC6MMF

Jack Barth
AB6VC

Ernest Fierheller
KG6LXT



Bob McFadden
KK6CUS

Tom Tracey
KC6FIC

Randy Benicky
N6PRL

Ray Grimes
N8RG

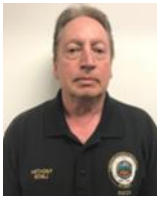
Lee Kaser
KK6VIV

Walter Kroy
KC6HAM

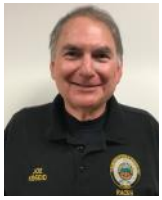
Martin La Rocque
N6NTH

Don Mikami
N6ELD

Harvey Packard
KM6BV



Tony Scalpi
N2VAJ



Joe Selikov
KB6EID

Robert Stoffel
KD6DAQ

Ken Tucker
WF6F

Tom Wright
KJ6SPE

OCSD RACES Coordinators

Peter Jimenez
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