



RF



ORANGE COUNTY AMATEUR RADIO CLUB, INC.

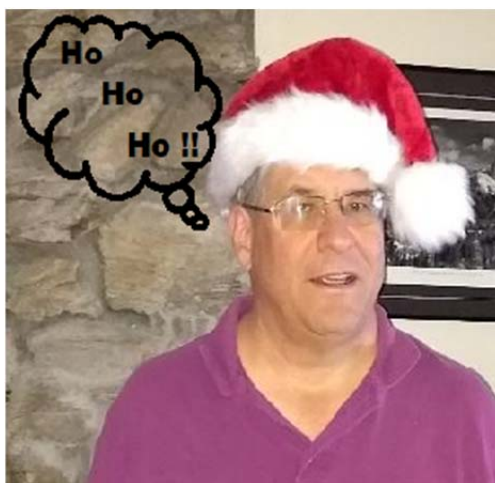
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P.O. BOX 3454, TUSTIN, CA 92781-3454

December 2017

The Prez Sez.....

by Tim N6GP



Ho! Ho! Ho! What a fantastic time we had at our Christmas Banquet last Friday night. Thanks go to Tim Millard N6TMT for organizing it all and for the behind the scenes work by Tim's wife Sheri. Thanks also to Chip K7JA for his thought provoking talk on the improbable coincidences that made up his life, career and illustrious ham career. Congratulations to Joel Rodriguez, KM6EMP who won the big prize of the ICOM-7300! The rest of us are very jealous. What a great radio!

(Continued on pg 3)



Congratulations to the 2018 Board of Directors

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Tim Goeppinger N6GP

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Tim Millard N6TMT

Technical:
Kenan Reilly KR6J

Directors at Large
Clem Brzoznowski W0MEC
Corey Miller KE6YHX

Next General Meeting

The January 2017 OCARC General Meeting program will be:

Lito de los Reyes, W16Y
presenting:

**"An overview/demonstration
of the All Star Network"**

The next General Meeting will be on:

Friday, January 12, 2018
@ 7:00 PM

ENTER from the WEST SIDE entrance of the
Red Cross Building, Room 208
Take elevator to the 2nd Floor. See you there!

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www.W6ZE.org



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rf_feedback@w6ze.org

Submit articles:

editors@w6ze.org

Monthly Events:

General Meeting:

Third Friday of the month
at 7:00 PM held at:
American Red Cross
600 Parkcenter Drive
Santa Ana, CA
(Near Tustin Ave. & 4th St.)

Club Breakfast (Board Mtg):

Normally First Saturday of month at 8am
Marie Callender's Restaurant
1821 North Grand Ave
Santa Ana, CA
(Between 17th & Santa Clara)

Club Nets (Listen for W6ZE):

28.375 ± MHz SSB
Wed- 7:30 PM - 8:30 PM
Bob AF6C, Net Control
Alt: Corey, KE6YHX, Net Control

146.55 MHz Simplex FM
Wed- 8:30 PM - 9:30 PM
Corey, KE6YHX, Net Control

7.086 ± MHz CW **OCWN**
Sun- 9:00 AM – 10 AM
Ann K6OIO, Net Control



Club Dues for 2017:

Regular/New Members* - - - - - \$30
Family renewal/Join**- - - - - \$45
New Member Join Jul-Sept*** - - \$15
Replacement Badge**** - - - - - \$ 3

* New members Jan-March, w/badge.

** Two members or more, w/badge.

*** New members July-Sept, w/badge.

**** There is a \$1.50 charge if you'd like to have your badge mailed to you.

(Continued from pg 1)

Congratulations to our Good of the Club Award winner Ron Mudry, W6WG (ex W6FPS). We can do a "year in review" by looking at everything he did for our Club in 2017. In addition to doing a fine job as Club Secretary, Ron was our all-star player at every event. He provided a tent and most of the antennas for Winter Field Day. He braved some cold 50 MPH winds the night before out at Prado. For June Field Day, Ron brought half of the antennas, including a very ambitious 3 element 40 meter beam that was set up on 3 masts. This antenna was key to our 2 transmitters on 40m strategy that paid off big, with our 6th consecutive win of the Orange Section, which encompasses Orange, San Bernardino and Riverside Counties. Our finish was 8th out of 75 for the 5A Class nationwide. For our picnic in October, Ron made a nice wire vertical antenna that we put on the air for the tough conditions in the Calif QSO Party. And lastly, Ron has secured a much closer site for our Winter Field Day next January in Huntington Beach. We look forward to seeing what Ron will bring to the table as Activities Director in 2018. Congrats, and thanks for all you do for the Club, Ron!

Please take notice of the very important editorial reprint from QST on "Rising RF Noise Floor" appearing on Page 4 of this RF Newsletter. We all need to be concerned about this.

I am honored to be your President for 2018, and I am looking forward to working with another terrific Board of Directors. I wish a Merry Christmas, Happy Hanukkah, and a Happy New Year to all. May your 2018 be a happy, healthy and prosperous year!

Tim Goeppinger N6GP
President, OCARC



The "Good of the Club Award" is presented annually to the OCARC club member who has made the most significant contribution to the club for the year. In 1997, this annual award was then dedicated to the memory of Kei Yamachika - W6NGO, for his year-after-year contributions in support of our club's activities.



Second Century

Tom Gallagher, NY2RF — tgallagher@arri.org
ARRL Chief Executive Officer

The Noise Frontier

“Hams can be instrumental in identifying and fighting the advances of this growing threat.”

Earlier this year, something extraordinary took place in Evanston, Illinois. As Rick Lindquist, WW1ME, reported in the “Happenings” column in the October 2016 issue, wireless vehicle key fobs, cell phones, and other wireless electronics stopped working. The problems were localized in the 600 block of Evanston’s Dempster Street, and they were almost exclusively confined to vehicles and cell phones located in that vicinity. Car owners could not open their vehicles or, in certain cases, even start them. To add to the frustration, some cell phones were also inoperable, so victims couldn’t even call for help. But these exotic occurrences with wireless devices were not the extraordinary event.

The Evanston Police Department initially contacted the Federal Communication Commission’s Chicago office for help, which resulted in the FCC referring them to the automobile manufacturers. Based on what the FCC knew about the situation, their response may not, in fairness, seem so unreasonable. For the Evanston Police, however, concerned about matters even more serious than stalled vehicles — namely, nonfunctioning cell phones and potential disruption of police communication systems — their next call was directed to ARRL Headquarters and ARRL Lab EMC specialist Mike Gruber, W1MG. Gruber called on ARRL Central Division Director Kermit Carlson, W9XA, who also volunteers as the ARRL EMC Committee Chairman. Carlson used a noise signature receiver that is part of Gruber’s arsenal of tools at the ARRL Lab, and together they were able to identify a strong interference source — something like a *nail* in a haystack — located near the center of the affected area. Accomplishing this was not quite so easy as a glib retelling would have you believe: Mike is an experienced interference bloodhound, and Kermit is an accomplished Engineering Physicist.

What’s extraordinary about the mystery in Evanston: the police called *us*. They asked for our help, and the League mobilized to assist in analyzing and solving a thorny problem. We should be as flattered by their outreach as we are proud of the results. First responders frequently call for our assistance in times of disaster, and in the case of Evanston, there is a certain man-bites-dog aspect to the story. It emphasizes the point that Amateur Radio serves the community in many, and sometimes unfamiliar, ways.

But there has been pushback from members of our community who assert that this kind of work is not our remit. “We are not in the ‘business’ of solving every interference case that arises in the country,” said one radio amateur in a recent posting. I disagree, and I find the comment frankly astonishing. It is the policy of ARRL to defend our spectrum from all adversaries, deliberate or random, from all consequences, intended or not.

Ed Hare, W1RFI, the head of the ARRL Lab, has been warning

all of us for years about the consequences of a pernicious, pervasive, rising noise floor that, left unchecked, will swallow up our spectrum just as quickly as the common carriers that are eyeing our real estate. At W1AW, the noise floor sometimes rises to S-7 levels during the day.

The cause of the rising noise floor can be, at least in part, attributed to sources like the one identified in Evanston — in that case, an errant neon light power supply. But noise is not limited to neon lights: a wide variety of switching mode power supplies for lighting and other applications are flooding the market. These devices are cheap, powerful, broadband, sometimes non-compliant RF generators. And their harmful effects are cumulative over time: as more and more offending devices are sold and installed, the noise becomes more intense and diffuse while the public’s investment in noise generating equipment becomes larger and therefore more difficult to unseat.

In one respect, we are fortunate. The noise problem is growing so quickly that it is impacting commercial business. When commercial interests are threatened, you can expect a Category 5 response. The broadcast industry, especially AM broadcasters, are taking notice of its impact on their service areas. That is why ARRL, which has long enjoyed a relationship with broadcasters, is working closely with the Society of Broadcast Engineers (SBE) and the National Association of Broadcasters (NAB). We have common interests in beating back the rising tide of noise. And our work with SBE and NAB is predated by Ed Hare’s long-standing relationship with the Institute of Electronic and Electrical Engineers, where they have labored long and hard to establish noise standards and to map noise sources. Noise is a new frontier, and we must take it seriously.

I am hopeful in the future for support from the commercial wireless sector. Perhaps it will take note that in Evanston, not only did cars fail to start, but cell phones didn’t operate, either. While commercial wireless is busy measuring our spectrum for curtains, rugs, and furniture of its own, I trust it will appreciate how quickly the value of spectrum vanishes when immersed in noise.

It’s only fair to note that the FCC did dispatch a field engineer to Evanston to size up the problem. That’s a generous gesture in this age of constrained budgets. We ought to be grateful.

I was told his car wouldn’t start, either.

73,

Tom Gallagher NY2RF

City of Orange EOC Activation - Canyon Fire 2

At 1050 on Monday, October 9, 2017, City of Orange Amateur Radio (COAR) was called out to assist with the Orange PD EOC activation due to the Canyon Fire 2. COAR members began arriving by 1110 and led the EOC Setup of telephones, laptops, uniforms and supplies. Setup was completed at 1120. At 1125 COAR Net Control was active and a roll call of on-air available COAR personnel was conducted.

Over the morning and afternoon hours COAR staffing remained at a minimal level and responded to requests for water and food deliveries. Later Monday afternoon COAR was requested to relieve Orange Fire Department personnel on the fire information hotline from 1800 Monday to 0600 Tuesday and enough were called up to assist. At 1800 Monday COAR took over the hotline phones and remained at station until 0700 Tuesday. COAR Net Control remained active throughout the night.

On Tuesday morning and afternoon COAR staffing was reduced to two operators to man Net Control. Later Tuesday COAR was again asked to man the hotline from 1800 Tuesday to 0600 Wednesday. The hotline was able to be shut down early at 0230 Wednesday with limited calls being received by this time. At 0245 October 11, 2017 (Wed), Net Control was shut down and the repeater returned to general traffic.

Over the 39 ½ hours COAR participated in the incident, Net Control was manned throughout the event. During the two hotline shifts over 200+ calls were received.

Will Stoddard KJ6IA, Event Lead, original article author

Dan Violette KI6X, Edited for "RF" Newsletter



The EOC activated fulltime during the event at the Orange Police Department. Photo is late into the night when staffing was about half of daytime. Map on screen showing evacuated areas and maps on table were tracking active fire.



L to R, Will Stoddard, KJ6IA, and Mike Frieze, KF6WRM, are manning the hotline. This photo was taken at 6 a.m. on Oct. 10 after Will and Mike had worked throughout the night and calls were still continuous.



L to R, Dan Violette, KI6X, and Sam James, W6RDS, manning the hotline
This photo was taken at 6:30 p.m. on Oct. 10, at the beginning of the evening (6-12) shift.

Meeting XE2 Hams in Ciudad Obregon, Sonora, Mexico

by Tim Goeppinger, N6GP

This story begins back in early of December of 2015, when I visited my wife Edna's home town of Ciudad Obregon in Sonora Mexico for the first time. Cd. Obregon is a large city of 425,000 residents situated about 325 miles south of the Arizona border. It is a long 16 hour drive there, with an overnight stop in Tucson.

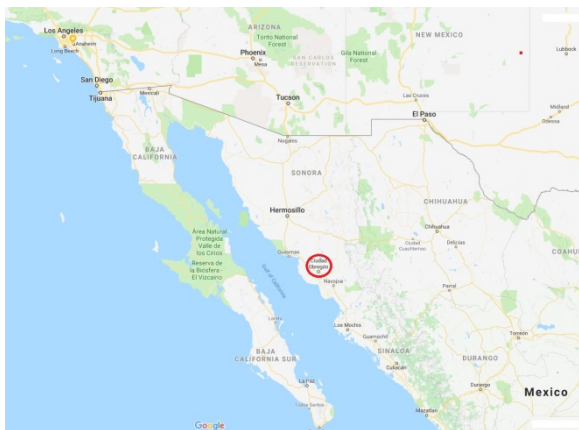


Figure 1 Ciudad Obregon circled in red

We stayed at Edna's brother's house, which is the house that she grew up in. I guess the way the land was inherited and subdivided for the family members, many of her aunts, uncles and cousins all live within the same city block. It makes it easy to visit family that way. We walked over to one of her aunts, and I was startled by what I saw a block away. A tri-band Yagi beam up on a 35 foot tower.



Figure 2 Impressive tower and yagis at XE2SOZs QTH

"That is a ham radio antenna!, I told my wife. She was unimpressed, and we went on to visit family. After we left her aunt's house, I walked over to the house with the awesome tower. I knocked on the outside steel gate, and there was no reply. Yelled "hola" a bit. Nada. For the next 3 days I walked the ¼ mile over to this ham's house in the morning and in the evening, hoping to catch him home. Nobody was there. Finally toward the end of our trip, a woman next door to the ham was there. I tried to communicate to her in my broken Spanish, but it wasn't working. I brought Edna over to translate, and the woman said that Omar, the owner of the house lives elsewhere, and does not come to this house much. We left a note for Omar with our local contact info, and she said she would pass it along.

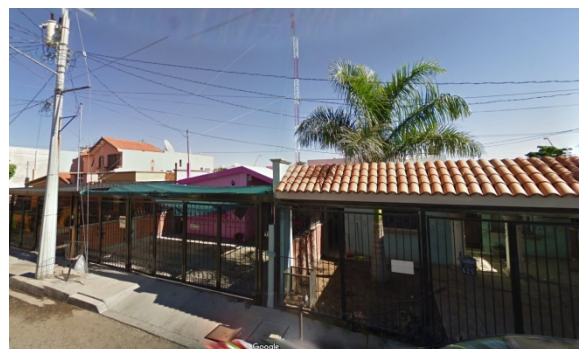


Figure 3 Omar's QTH (pink house with tower)

Additionally, I was able to find Omar's callsign (XE2SOZ) and email address on QRZ.com. I sent him an email from my phone, hoping that he would see it. Unfortunately, there were no replies from him before we left to return home to California.

About 10 days after we were back home, I got an email from Omar Zamorano! He apologized for not checking his email often, and explained that the house with the tower was actually the house of his father, who recently became a silent key. He said he lives elsewhere with family. He said that when I am back in Cd. Obregon, that he would like to meet me. We exchanged a couple more emails in Dec

2015, but that was it. Edna visited Cd. Obregon a year later in December 2016, but I was not along for that trip.

Fast forward to October of this year. A daughter of Edna's cousin was getting married in the port town of San Carlos in Sonora, which is a beautiful unspoiled place. After the wedding, we drove the additional 2 hours to Cd. Obregon. In advance of this trip I emailed Omar, and exchanged phone numbers, and we thought we could meet on the Sunday of that trip. When we arrived in Cd. Obregon, I called Omar, and he invited us over to his house. We briefly talked with him and his wife, and he invited me to join him at a meeting he has with his ham friends, and offered to pick me up.

I said goodbye to Edna, and Omar picked me up at the scheduled time. We stopped at the local OXXO (7-11 type store in Mexico) and picked up some beer and potato chips for this meeting. It was only about a 1 mile drive to the house where this informal meeting was held. The host was Jose Adrian, XE2SPA, and he greeted us at the door. I met the other hams and their wives. This informal group of hams meets in someone's home every 1-2 weeks. The men (hams) all talk around the dining table while their wives talked in the family room. They said that there are no formal clubs there, and that there haven't been any real clubs there since the '90s.

Cd. Obregon is known to have great food. They are close to the Sonoran beef producing area, and also get seafood nearby from the Sea of Cortez. Strangely, Sonora is also known to have great hot dogs. At our table they served a heaping plate of scrumptious bacon wrapped hot dogs, along with condiments like grilled onions, jalapenos (no thank you), mustard, catchup and avocado sauce. For dessert we had coconut gelatin, which was delicious. For some reason, Omar and I were the only ones who had beer. Everyone else

drank soda.



Figure 4 QTH of Jose Adrian, XE2SPA with his tower and VHF antennas. (2nd tower in rear not his)

This informal club keeps in touch via a 2 meter repeater. I am not sure if they own it, or just use it. I don't think any of them are currently active on HF. The host, Jose Adrian, XE2SPA showed me his shack, which is immediately in the entryway behind the front door. He has a nice Ten Tec Orion rig, plus some other Kenwoods from the 1990's. Currently, he has no HF antenna up, but plans were being made for the upcoming winter antenna building season. (Weather there is about 115 degrees and humid most of the year, so you put up antennas in the winter).

I was able to make conversation with my limited Spanish. Omar speaks English quite well, and translated for me as needed. Omar asked me how much it costs to renew our licenses in the U.S. I said "free". He was shocked because they have to pay \$150 USD to renew their licenses. A first time license in

Mexico runs about \$250. On top of that, they



Figure 5 Group photo of the informal meeting. Omar XE2SOZ 3rd from left, Tim N6GP, then Jose Adrian XE2SPA on far right. Wives of N6GP and XE2SOZ did not attend.

said that the state of Amateur Radio licensing in Mexico is a mess. The telecom regulators called IFT has gotten backlogged by several years on doing renewals. Omar said that everyone at this meeting is operating on an expired license, some 3 to 4 years. I guess they can still operate as long as their renewal is pending. They call the IFT to check on the status of their renewals, and they get told "we are working on it".

I told them about the latest things going on in the United States in ham radio, including the ever popular FT8 mode. They had never heard of it, and thought that it would be something great for Jose Adrian to use once he got his new antenna up. My wife texted me a couple of times, wondering how I was doing with this group of unfamiliar people. I told her I was fine, and the 2 hours flew by. We took pictures to commemorate this occasion. Omar dropped me off at Edna's brother's house, and we hoped that we could meet again sometime.

Following this, I began to reflect on this wonderful thing that I had just experienced. I saw the camaraderie of all the men having a lively conversation around the table, and likewise their wives in the other room. Questions popped in my mind. They meet like this nearly every week in someone's home? Do we have anything like this in the U.S.? Is this a cultural difference between U.S. and Mexico? I mulled it over some, and I guess we do have

informal meetings like this here. We have the Friday groups like the (formerly) Watson's Radio Club and the noontime group at the Orange Café. I can't speak for the Watsons group, but anyone is welcome to join us at the Orange Café (Mayfair west of Tustin in Orange).

We are going back to Cd. Obregon next month for yet another wedding (the sister of the October wedding bride). I hope to meet with Omar and Jose Adrian again. Meeting DX hams in their own country is an awesome experience, and I enjoyed this rare opportunity to meet them.



I saw this in San Jose del Cabo last week. For some reason they put up some sort of Yagi satellite antenna every December.

Circular polarization.

2017 Christmas Banquet

Our fantastic 2017 banquet was held December 8 to celebrate the Christmas holiday and another successful year of OCARC activity. Mimi's Café in Tustin was chosen again as the site for the banquet and again Mimi's provided three delicious dinner choices for our members and guests.

Our Activities Director, Tim Millard N6TMT is to be congratulated on arranging another great evening. The evening's feature was club fellowship but included a terrific dinner to go with an assortment of ladies gifts, valuable raffle prizes, a grand prize ICOM 7300 transceiver and entertainment for all. In addition to camaraderie, the evening's entertainment included a stirring karaoke rendition by our leader Tim Goeppinger N6GP who was accompanied by the assembled OCARC Glee Club.

Chip Margelli K7JA, always entertaining, presented a thought provoking personal history that demonstrated how small our world has become and what an incredible network of friendship is supported by ham radio.

At evening's end, all went home happy and well fed.



Ron W6WG (R) accepts the 2017 Good-Of-The-Club Award from President Tim N6GP for his enthusiasm and energy working on club projects.



In addition to the ICOM drawing, the OCARC held a separate drawing for party attendees for "Radio prizes"



A great photo of the OCARC 2017 Christmas Party gathering...while Chip K7JA tells a story of an amazing 'interconnectivity of hams' over several decades:...from foxholes in the Pacific, to the Vatican City, to a young scout in the Pacific NW, to a WWCW Contest."



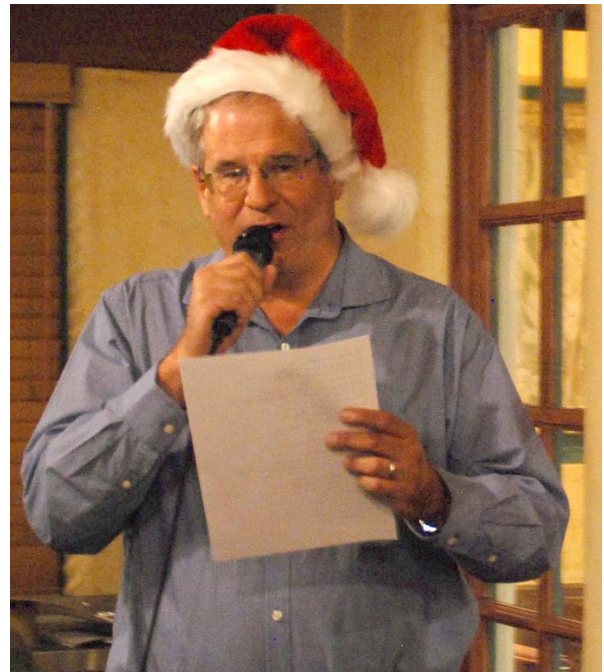
Kenan KR6J tries to pick the winning square for the ICOM 7300



Debbie Violette, the wife of Dan KI6X, picked the first of gifts provided for women at the party



Chip K7Ja delivers amazing personal story



Tim N6GP, Croons "Great Radio Club" "Di Di Dah" to the members delight.



Clockwise at South Table: Tim N6GP, Vijay KM6IZO, Kenan KR6J (partially hidden) Joel KM6EMP, Rodger AI6WV, Ken W6HHC, and Tim N6TMT



Clockwise at Center Table: Tony W6TNY, wife of W6TNY- Torey (hidden), Nicholas AF6CF, wife of AF6CF- Maria (behind flowers), wife of W6ETC – Sharon, Tom W6ETC, Wardy N6SKE, and Janet KL7MF (back to camera) and Chip K7JA



Clockwise at North Table: Ron W6WG, Greg W6ATB, Chris N6CTB, Phil K6PAD, Don KØVNJ, Robbie KB6CJZ, Dan's XYL, Dan KI6X, Jim AF6N.



Joel KM6EMP (a new club member in 2017) is the lucky winner of the ICOM 7300 opportunity drawing.



Heathkit of the Month #81:

by *Bob Eckweiler, AF6C*
AMATEUR RADIO - SWL

Heathkit K-2 Three-Tube All-Wave (Regenerative) Receiver

Introduction:

Last month's article looked at the K-1 All-Band receiver that Heathkit released in May of 1948 alongside two other kits, the T-1 Signal Tracer and the C-1 Condenser Checker; these were the 9th, 10th and 11th kits released under the Heathkit name.

Last month there was speculation in my article about the release date of the K-2 and what changed from the K-1 to the K-2. Little information was available on the web and from fellow Heathkit historians. However, shortly after the article was printed in the Orange County Amateur Radio Club Newsletter, I received an email, all the way from Belgium, from Alfred Maistriaux. He pointed me to an article on the K-2 that appeared in the Old Timer's Bulletin, vol. 33/4 (OTB is a publication of the Antique Wireless Ass'n.) The article includes parts of the K-2 manual including the schematic. Also, the date of the manual publication is given. Thus a lot of the questions from last month's article can now be answered thanks to Alfred Maistriaux taking the time to pass along valuable information.

The Heathkit K-2 All-Wave Receiver:

The date on Heathkit's K-2 schematic and layout drawings of June 20th, 1949 lets us know that the K-2 most likely started shipping in July of 1949. Remember that Heathkit did not use model numbers on their advertising, so anyone ordering the "All-



Figure 1: The Heathkit K-2 All-Wave Receiver. If you look close at the lower center you can almost make out the words "Model K-2". More on this photograph in the Summary.

Wave Receiver" kit would automatically receive the K-2 as soon as the K-1 stock was depleted. This probably occurred in July. The K-2 continued to ship until the end of 1949 after which it was no longer advertised. Heathkit introduced the AR-1 Three-band superheterodyne receiver in December for \$23.50 (\$30.75 with speaker and cabinet), a more serious shortwave radio.

The K-2 was never produced in the two-tube battery operated version since that option was dropped in the K-1 in mid 1948.

K-2 Layout:

The K-2 layout closely follows the K-1. It is shown in figure 2. If you compare the top view to the K-1 top view (presented in last month's article) you will find it difficult to see the changes. They both use the same K-30 chassis. The tube designations are different, as expected, as is the resistor/capaci-

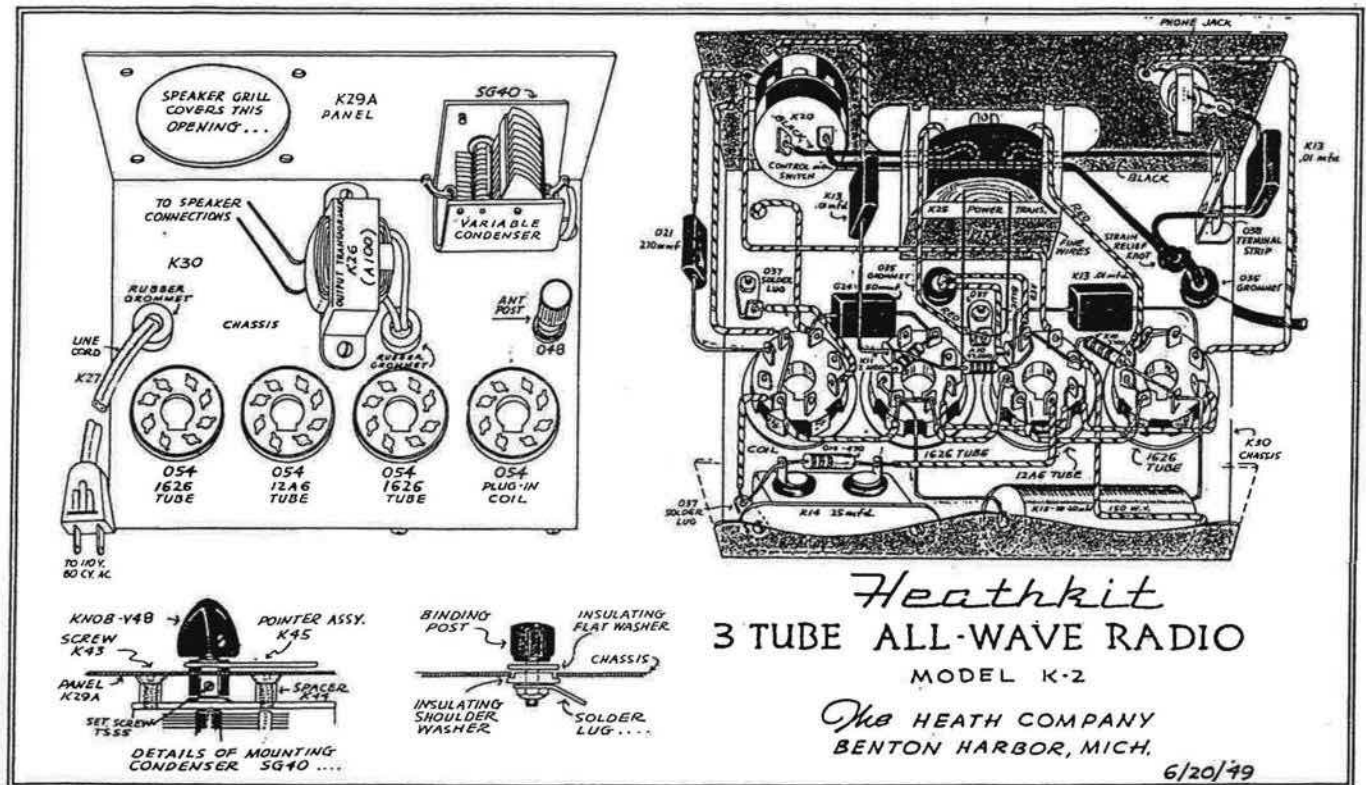


Figure 2: Layout (top and bottom) of the Heathkit K-2 All-Wave Receiver from the Manual as reprinted in Antique Wireless Association Old Time Bulletin #33-4.

tor combination from the tuning condenser to the grid cap that fits on the K-1's 12C8 tube. The front panel part number has been changed to K29A and now includes the model number on the front panel. Also the tuning condenser part number has changed from K15 to SG40. This confirms my theory that the later K-2 has vernier tuning. The details of the mounting of the condenser shows this with its separate pointer assembly (K45), screws and standoffs to allow room for the vernier mechanism (Figure 2 inset). Some of the K-2s I've seen photos of are modified with larger knobs to ease the tuning further.

Looking at the underside of the layout in Figure 2 there are lots of changes because two of the tubes have been changed. Of note is that many of the component values as well as part numbers are now given for the resistors and the smaller capacitors.

The K-2 Circuit:

The K-1 circuit was discussed last month, and since the changes are mostly to the circuits of the two changed tubes, that's all that will be discussed.

The K-2s rectifier circuit is identical to the K-1 except the 12A6 beam power pentode has been replaced with a 1626 triode with the grid connected to the plate. The 1626 tube was used in the command sets and many were made and available cheaply in surplus after the war. Heath probably did this to save a few cents and allow them to add the vernier without raising the price.

To help cut costs further they also replaced the regenerative receiver tube from a 12C8 to another 1626. This was a bigger change as the 12C8 is a pentode and the 1626 is a triode. In the K-1 the **VOLUME** control changes the voltage on the screen grid of the 12C8 to

control the regeneration. Since the 1626 has no screen grid another type of regeneration control had to be used. The coils used with the K-2 are the same as used with the K-1. Each coil has three windings, an antenna coil winding, a grid coil winding and a “tickler” coil winding. The antenna coil is between the antenna input and ground and is closely coupled to the grid coil, which is tuned by the tuning capacitor, and passes the signal to the grid of the receiver tube. The “tickler” winding provides regeneration feedback to the grid coil. In the K-1 this coil went between ground and the cathode of the receiver tube. Due to the proximity this coil also couples energy to the antenna if the regeneration is set high enough that the circuit is oscillating, which can create an interference problem to stations nearby. Since no screen-grid is available using the 1626 triode tube, Heath coupled the output from the plate through the regenerative VOLUME control to the “tickler coil” to get regenerative feedback. Since the signal from the plate is 180° out of phase with the signal from the cathode, the “tickler” coil is connected in reverse from the K-1.

The audio amplifier continues to use a 12A6 power-beam pentode and appears the same as the K-1 with the exception of the grid resistor being changed from a fixed resistor to the regenerative VOLUME potentiometer.

Summary and Comments:

The K-1 and K-2 likely started many youngsters thinking about a career in electronics. When you build a piece of electronic equipment either from scratch, from a article in a handbook or magazine, or from a kit, you tend to learn a lot more than you would just studying for a ham license and firing up a store-bought radio. If you started from scratch and are successful you are either already well skilled in the field, or you have learned a lot in the process.

K-1 and K-2 All-Wave receivers are probably a Heathkit you won't want to own unless you are a collector. Still it is a part of the early Heathkit legacy and an interesting radio worth discussing.

What's Coming Next:

The holiday season is upon us. I'm going to be busy helping a relative get settled into their new home. Thus I may not have an article next month. I do have two Heathkits in the mix, both test equipment and both I have manuals or good information on; one is a piece of radio related test equipment. I also have a Heathkit IM-4180 FM Deviation Meter that I need to use and become familiar with before I feel comfortable writing an article with it as the subject.

I've had a few people ask about the machinations of my articles. Questions like why I often use old words like condenser instead of capacitor, etc. Also I'm occasionally asked about the logo I use at the beginning of an article. While I'll be the first to admit I mess up often, I try to use the logo and the technical words from the era of the kit I'm writing about.

Finally, on the photo in Figure 1. It is a cropped photo I found on the QRZ website. I tried to contact the person posting the photo multiple times to get more information without any response.

73, from AF6C



This article is Copyright 2017/2018 by Bob Eckweiler and The OCARC Inc.

Remember, if you are getting rid of any old Heathkit Manuals or Catalogs, please pass them along to me for my research.

Thanks - AF6C

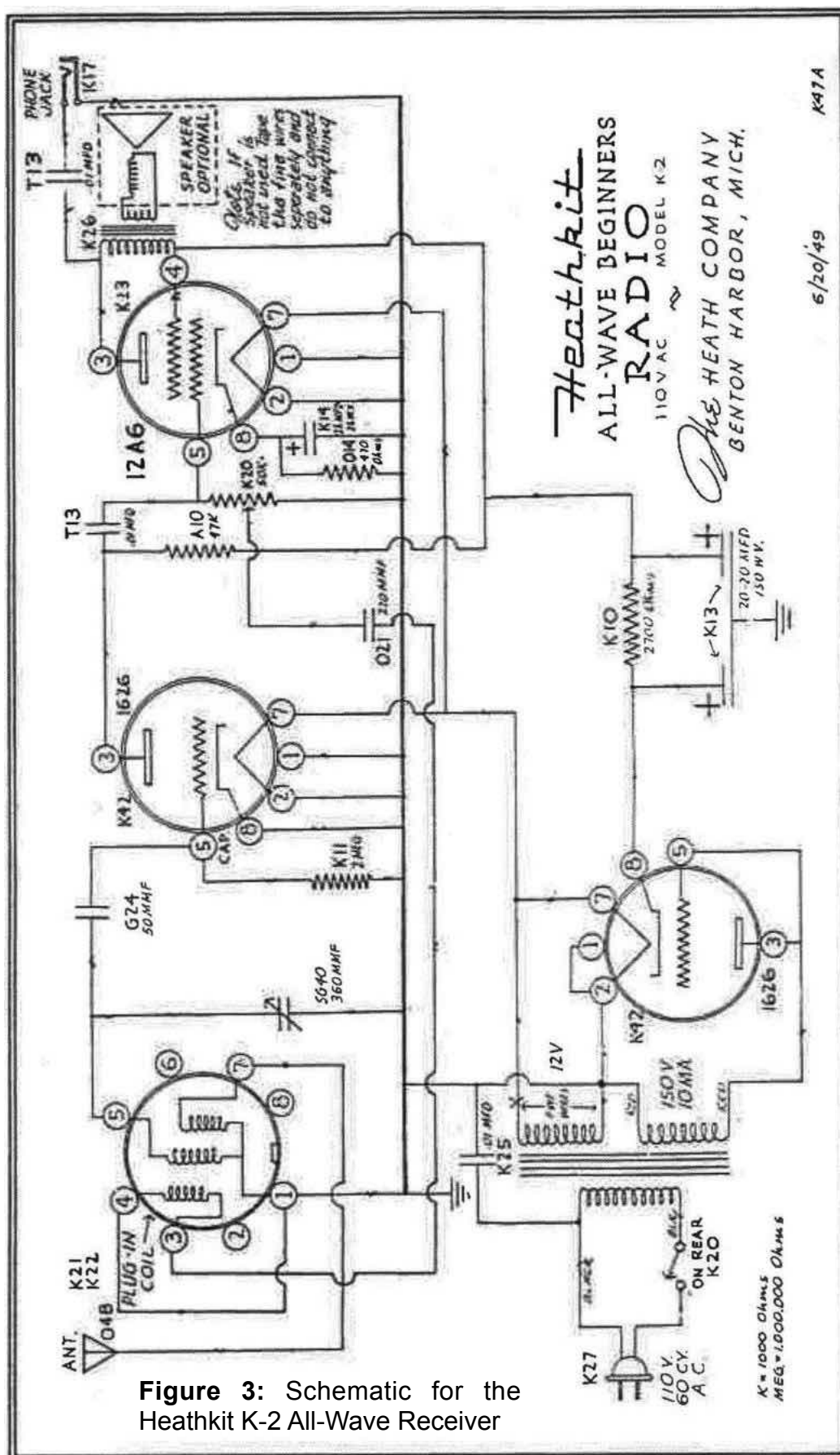


Figure 3: Schematic for the Heathkit K-2 All-Wave Receiver



Winter Field Day

When: January 27 & 28

Where: 17200 Pinehurst Lane, Huntington Beach, CA.

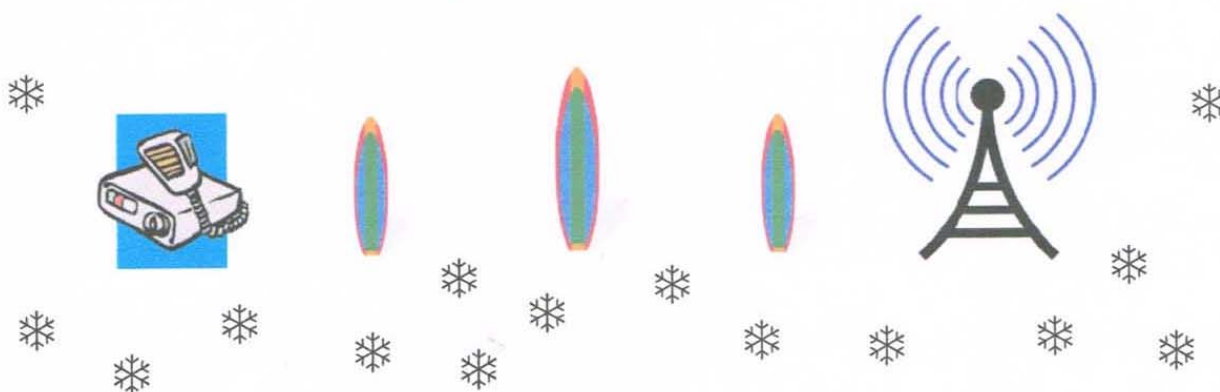
Bands: 20m, 40m, 75m, 80m & 160m

Class: Outdoor

Setup time: Sunrise Saturday

Contest time: 11:00 am Saturday to 11:00 am Sunday

Information: w6wg@w6ze.org or www.winterfieldday.com



2017 OCARC FIELD DAY RESULTS

Again, for the sixth straight year and nine of the past eleven years, the Orange County Amateur Radio Club of California ranked 1st in the ARRL Orange Section 5A Class. Our score ranked in the top 2% of the Southwest Division and in the top 3% nationally.

See below for the OCARC record during the past fifteen years.

Orange County (California) ARC FD Results - 2002 - 2017												
YEAR	SCORE	# QSOs	CLASS	FINISH: FIELD DAY OVERALL			FINISH: SOUTHWEST DIV.			FINISH: ORANGE SECTION		
				POS.	OUT OF	%	POS.	OUT OF	%	POS.	OUT OF	%
2017	8,236	2,582	5A	81	2,965	2.7%	4	207	1.9%	1	47	1st
2016	6,242	1,874	4A	139	2,697	5.2%	7	195	3.6%	1	41	1st
2015	10,150	3,391	6A	47	2,720	1.7%	4	197	2.0%	1	44	1st
2014	17,970	5,429	7A	6	2,686	0.2%	1	193	1st	1	48	1st
2013	21,258	6,859	12A	2	2,548	0.1%	1	170	1st	1	47	1st
2012	7,684	2,264	5A	118	2,617	4.5%	7	176	4.0%	1	50	1st
2011	6,504	2,110	6A	159	2,632	6.0%	9	179	5.0%	5	49	10.2%
2010	5,936	1,878	4A	175	2,617	6.7%	14	182	7.7%	4	50	8.0%
2009	19,304	5,925	9A	3	2,603	0.1%	1	175	1st	1	45	1st
2008	11,316	3,265	9A	28	2,409	1.2%	1	161	1st	1	44	1st
2007	20,246	6,217	9A	2	2,331	0.1%	1	157	1st	1	42	1st
2006	6,278	1,836	4A	161	2,169	7.4%	7	153	4.6%	2	43	4.7%
2005	6,742	1,938	3A	128	2,199	5.8%	11	172	6.4%	2	32	6.3%
2004	5,666	1,792	4A	207	2,242	9.2%	16	152	10.5%	4	41	9.8%
2003	3,350	946	4A	426	2,079	20.5%	29	150	19.3%	6	32	18.8%
2002	4,928	1,517	4A	303	2,099	14.4%	20	139	14.4%	4	42	9.5%

de AF6C

Thanks Bob AF6C for the record.

OCARC Cash Flow - Year To Date

1/1/2017 through 12/13/2017

Category	1/1/2017- 12/13/2017
INFLOWS	
ARRL Membership Income	95.00
Auction In	489.75
Badge Income	8.00
Christmas Dinner Ticket Sales	868.35
Dues, Family	90.00
Dues, Family (PayPal)	206.03
Dues, Future	150.00
Dues, Future (PayPal)	230.64
Dues, Membership	742.50
Dues, Membership (PayPal)	806.96
Field Day Food Income	375.00
Opportunity Drawing - Holiday - Icom	810.00
Opportunity Drawing -Monthly	255.00
Opportunity Drawing IN - Christmas	280.00
Refreshments Income	69.00
Sale Of Equipment	1,058.00
TOTAL INFLOWS	6,534.23
OUTFLOWS	
ARRL Membership Expense	93.00
Auction Payout	265.06
Bank Svc Chg	50.00
Christmas Dinner - Ladies Gifts	107.25
Christmas Dinner 2017 Food Exspense	767.00
Donations - Red Cross	150.00
Field Day - Flowers	53.88
Field Day - Gas	39.59
Field Day Equipment	212.04
Field Day Food Reinbursement	525.00
Field Day Rental	51.72
Insurance Expense 2018	300.00
Meals - Board Mtg	92.72
OCARC Historian	27.45
Opportunity Drawing - Monthly	142.17
Opportunity Drwg - Christmas Icom 7300	1,192.92
Opportunity Drwg - Christmas	315.97
PO Box Rental	64.00
Publicity - OCARC pens & flyers	56.00
Refreshments Expense	186.42
Storage Locker	708.00
Supplies	101.23
Trifold Brochure Printing	231.12
Web Site Hosting	191.88
Web Site SSL Fee	69.99
TOTAL OUTFLOWS	5,994.41
OVERALL TOTAL	539.82

OCARC GENERAL MEETING MINUTES 2017-11-17

The OCARC General meeting was held at the Red Cross Complex in Santa Ana on November 17, 2017.

Club Officers: There was a quorum with all officers present with the exception of Ron Clem W0MEC, Greg W6ATB and Dan N6PEQ.

Attendance: We had 24 members, 4 guests and 2 guest speakers sign the attendance log.

Meeting was called to order at 7:04 pm and was followed by the Pledge of Allegiance to the Flag and introductions of the members and guests.

Announcements:

- Tim, N6GP asked those planning to attend the Christmas Banquet to see Tim N6TMT to purchase dinner and raffle tickets.

November Program:

Jim, AF6N introduced the presenters for the evening, Doug Millar, K6JEY and his wife Helen Millar KI6LQV. The presentation covered test equipment and measurement devices for amateur radio. Doug has extensive experience with test equipment and gave many examples of affordable instruments that could provide the accuracy needed for testing and evaluation of electrical circuits found in amateur equipment.



Intermission was taken from 8:18 till 8:38 pm

Business Meeting:

- Tim, N6TMT discussed the “rules” for the raffle of the ICOM 7300 as grand prize at the Christmas dinner and the details of the raffle rules.
- Tim, N6GG mentioned that information about the dinner is available on the W6ZE website and you can purchase tickets by a PayPal link on the website.
- Tim, N6GP reminded everyone that Winter Field Day is coming up on the last weekend in January at the Ocean View School District Office site located at 17200 Pinehurst Lane in Huntington Beach.

Election of Officers and Directors:

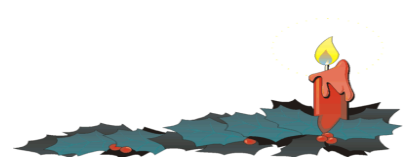
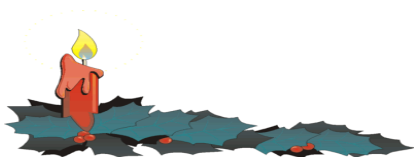
- Ron, W6WG, as club secretary, conducted the election of the 2018 OCARC Officers and Directors. The nomination community’s slate of nominees for each position was presented and the membership was given the opportunity to nominate additional members for all positions. The position for Technical Director was open and Kenan, KR6J was nominated to fill that position. Nicholas AF6CF was nominated as president. With two candidates for president a secret ballot was used to determine the winner. The balance of the positions was elected by a show of hands. The election results for 2018 are as follows,

2018 BOARD OF DIRECTORS

President –	Tim Goeppinger	N6GP
Vice President –	Dan Violette	KI6J
Secretary –	Jim Schultz	AF6N
Treasurer –	Ken Konechy	W6HHC
Activities –	Ron Mudry	W6WG
Membership –	Bob Eckweiler	AF6C
Public Relations –	Tim Millard	N6TMT
Director at Large –	Clem Brzoznowski	WØMEC
Director at Large –	Corey Miller	KE6YHX

Ask an Elmer:

- Chris, N6CTB asked for suggestion on installing a 80M antenna.
- Tom, W6ETC asked for suggestions for constructing a foldable Hexbeam.
- Bob, AF6C is looking for 1949 QST advertisements for Heathkits.



Show and Tell:

- Fran, KJ6UJS brought a mount for his mobile radio that fits into a cup holder and is easily re-located between vehicles.

**Good of the Club:**

- New club member, Don K0VNI

Meeting Adjourned at 9:21 pm

Submitted by *Ron Mudry W6WG, Secretary*
OCARC Secretary



OCARC BOARD MEETING MINUTES 2017-11-04

The November OCARC Board meeting was held at the Jeffery Open Space Park on November 4, 2017.

Meeting Called to Order: 8:15 am

Roll Call:

Pres.: Tim N6GP, Present	Vice Pres. Jim AF6N, Present
Sec.: Ron W6WG, Present	Membership: Bob AF6C, Absent
Tech.: Clem W0MEC, Absent	Treasurer: Ken W6HHC, Present
Activities: Tim N6TMT, Present	Publicity, Dan N6PEQ, Absent
Directors at Large: Greg W6ATB, Present	Nicholas AF6CF, Absent

Members Present: Corey KE6YHX

Guest Present: Eve Morguelan

DIRECTOR REPORTS:

- ☐ **Vice President** – Jim, AF6N confirmed that Doug K6JEY will be the November will guest speaker and DX Engineering will be the March entertainment.
- ☐ **Secretary** – Ron, W6WG forwarded mail from the IRS to the treasurer Ken, W6HHC.
- ☐ **Membership** – Bob, AF6C reported processing a few new member applications and has updated all membership rosters.
- ☐ **Technical** – No report.
- ☐ **Treasurers Report** – Ken W6HHC handed out copies of the current Year to Date OCARC Cash Flow report and a report on the 2017 October Auction as compared to those in 2016 & 2015. The report showed a decline in the auction net profit for 2017 from the previous two years. After some discussion it was determined that with the sale of donated items earlier in the year, 2017 income was in line with passed years.
- ☐ **Activities** – Tim, N6TMT has been working on an online Net Control Schedule. At the completion of testing the schedule will be linked to the OCARC website,
- ☐ **Publicity** – No Report.
- ☐ **Directors at Large** – Greg, W6ATB reported very good band conditions on 20 meter to Europe when he was running digital (FT8).

OLD BUSINESS:

- ☐ **Newsletter Editors**
November - Tim N6GP, December - Jim AF6N, January - Greg W6ATB.
- ☐ **Entertainment** – Guest speakers are as follows, November – Doug K6JEY Test Equipment, January – Lito WI6Y All Star Network, February - ?, March – DX Engineering SKYPE Presentation.

Nomination Committee – Tim N6GP, Tim N6TMT, Jim, AF6N and Ron, W6WG completed the task of putting together a slate of nominees for next year's club officers and directors. The nominees will be listed in the November RF. Prior to the election at the November General Meeting additional nominations will be taken from the membership and added to the slate of candidates.

- ☐ **Club Historian** – Corey KE6YHX distributed his current report on his progress with the Santa Ana Library and web site projects. Corey also distributed copies of the Deed of Gift to the library for the Self-browsable M-Disk DVDR of the OCARC www.w6ze.org website.

- ❑ **Christmas Banquet** – Tim, N6TMT reported the dinner prices will be the same as last year, \$29.00 if paid by check of \$30.00 if paid through Paypal. These prices include the cost of the dinner, tax and gratuity. Club members will be notified when the Paypal link will be activated. Members can also purchase dinner tickets at the November General Meeting.
- ❑ **Promotional Items** – Bob, AF6C will finalize the card format and has been authorized to purchase 500 business cards.
- ❑ **2018 Winter Field Day Site** – Ron, W6WG has received approval from the Ocean View School District to use the field and parking areas behind the District Office for the OCARC 2018 Winter Field Day operations site. The site is located at 17200 Pinehurst Lane Huntington Beach.

New Business:

- ❑ **Review of the 2017 October Auction** – See Treasurer's Report.
- ❑ **Financial Audit Committee** – Tim N6GP, Jim AF6N, Tim N6TMT, and Ken W6HHC will serve as this year's audit committee to review the OCARC 2017 financial records.
- ❑ **Good of the Club Award** – Send an email to Tim N6GP if you would like to nominate a deserving member to receive the 2017 "Good of the Club" award.
- ❑ **2018 Honorary Members** – Janet Margelli, Chip Margelli and Lee Evans were chosen to be 2018 OCARC Honorary Club members.

Meeting Adjourned 9:30 am

Submitted by *Ron Mudry W6WG*, Secretary
OCARC Secretary





UPCOMING EVENTS

JANUARY 12, 2018 MEETING

Lito de los Reyes, W16Y will make a presentation on the All Star network. Lito previously presented a very interesting show and tell on the All Star system and will expand upon its growth and advantages.

JANUARY 27/28, 2018 WINTER FIELD DAY

We will be braving the elements at the Ocean View School District in Huntington Beach.

For the most current Upcoming event information go to: <http://www.w6ze.org/Events.htm>

FEBRUARY 16, 2018 MEETING

Cliff Guice KG6MIF will present on the topic of "Near Vertical Incidence Skywave (NVIS)"

MAR CH 23, MEETING (note: Moved to 4th Friday due to Baker to Vegas)

Tim Duffy, K3LR, from DX Engineering will present via Skype. The topic will be an introduction to the amazing Multi Multi K3LR contest station.

RadioActivity November 2017

Upcoming Activities

DECEMBER

- ****Rookie Roundup CW:** Third Sunday, 1800 UTC through 2359 UTC.
* Indicates club entries are accepted**
**Indicates team entries are accepted
- **SKCC Sprint** (Straight Key CW) 000Z to 0200 on the 1st Tuesday night (USA) of the month.

Stray RF Items of Interest

Recent Activities by OCARC Members:

- **CQ WW DX / SSB:**
Ron W6WG, Tim N6GP

Send an email to Ron W6WG, w6fps@w6ze.org to have your favorite activity or your recent RadioActivity listed in next month's column.

2017 OCARC in PHOTO REVIEW

Pages 28 - 34 represent a review of 2017 RF Newsletter activity photos.

2017 FIELD DAY



OCARC at AUCTION



Going once! Going Twice! Sold!!!!



"Haven't seen one of these gismos since 1979." Lot of cool factor here." - Chip



Ron W6WG & Ken W6HHC handle the auction money

OCARC SUPPORTS OPD

COAR RACES plans Communication Support for the Orange Police 2017 B2V Running Team



Many members of COAR RACES and other communications volunteers take a group photo during an Orange PD B2V planning meeting. Eight OCARC members assisted COAR during B2V. Photo by W6HHC



Fig 5 - On Friday morning before the B2V race, COAR RACES volunteers at breakfast before drive to desert (photo by Bobbie KG6MIF)



Fig 4 - Ken W6HHC offered to grill bratwurst for lunch for the hams involved with the equipment testing. On left is Bob AF6C, and Kris W6KJC is seated. (photo by Quent W6RI)



Fig 3 - Equipment to be used at the Pahrump Comm Center was tested before the race in backyard of Ken W6HHC (seated with brown shirt on left). (photo by Ken W6HHC)



Fig 15 - The check points take on a completely different atmosphere when running at night. Here the OPD runner and the OPD Follow Vehicle can be seen approaching the "chute" for the baton handoff. (photo by Sam W6RDS)

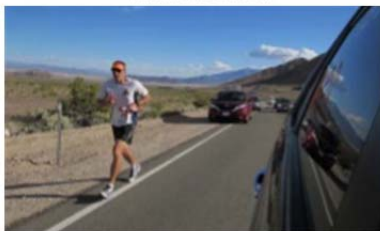


Fig 7 - The B2V race has started and the OPD is running as Team #45 in 2017. This photo was taken from the COAR "leap-frog" vehicle that provides "catchers" for the OPD runners at the next relay point. The runner is Officer Tibor Naray in Leg 4 of the B2V race. (photo by Bobbie KG6MIF)



Fig 8 - This photo taken in 2006 provides a great "feel" and terrific view of the open desert with the OPD runner (then Team #57) leading what seems to be an endless line of runners and support vehicles from the competing teams. (photo by Byron KC6YNG)

OCARC in the COMMUNITY



OCARC GETS AROUND



Prado Park View



Russ @ Madras, Oregon Campsite



Tim N6GP @ Winter FD



Ron W6WG's Tent @ Winter FD



Solar Eclipse @ Oregon



Steve N1BKB @ Rig



Solar Eclipse projected thru leaves



Wayne KH6/N6NB in Hawaii



Chip K7JA ROUGHIN' IT

OCARC PICNIC

2017 OCARC PICNIC and CALIFORNIA QSO PARTY



Beautiful Park



Board @ Work



Antenna Raising



Tim N6TMT Vijay KM6LZD Rodger A16WV Jim AF6N



Antenna Launch - Nicholas AF6CF

Kathy and Rodger A16WV

Photo by G0EART October 2017 CA QSO Party

