



# RF



VOL. XLIV NO. 12

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

DECEMBER 2008

## The PREZ SEZ:



## Merry Christmas OCARC!

It has been a grueling 6 months, I hope to be able to relax with family over the Christmas holiday. I realize how long it has been after spending Thanksgiving with my Uncle and his family. My cousins were very young when I left New England, and now they are finishing grad school. I joined QCWA at one of the larger hamfests here. I am facing my age head on, ouch. I am planning a get together with some of my favorite teachers. Two of them are active hams in Rhode Island. I started setting up a station at my Dad's house, where my

5th wheel lives. I hope to have a Yagi that I can point west to chat with my OC friends.

Cheryl and I both miss our friends and being part of OCARC. Perhaps Field Day 2010!

73,  
Willie Peloquin, N8WP

## NO DEC. MEETING:

There will be no December General Meeting. Instead, the Club will hold its **Annual Holiday Party**. Join the festivities and a chance to win some special prizes in the big raffle. Don't miss this event! Details inside.

The Annual Holiday Party is:

**Friday, December 12<sup>th</sup>  
@ 7:00 PM**

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## Congratulations to the 2009 Board of Directors:

|                           |        |
|---------------------------|--------|
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| Rich Helmick              | KE6WWK |
| <b>Director at Large:</b> |        |
| James Noll                | AF6DE  |

**The Next OCARC Breakfast  
& open club Board Meeting  
is on Sat. January 10th.  
This is a Special Date.**

**THE ORANGE COUNTY  
AMATEUR RADIO CLUB, INC.**  
P.O. Box 3454, Tustin, CA 92781



### **2008 Board of Directors:**

#### **President:**

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### **Monthly Events:**

#### **General Meeting:**

Third Friday of the Month  
At 7:00 PM **except Dec.**  
**American Red Cross**  
600 N. Parkcenter Dr.  
(near Tustin Ave. & 4th St)  
Santa Ana, CA

#### **Club Breakfast (Board Mtg.):**

First Saturday of the  
month at 8:00 AM at the  
**Jägerhaus Restaurant**  
2525 E. Ball Rd.  
(Ball exit west off 57-Fwy)  
Anaheim, CA

#### **Club Nets (Listen for W6ZE):**

7.086 ± MHz CW **OCWN**  
Sun - 9:00 AM - 10:00 AM  
Rick KF6UEB, Net Control  
28.375± MHz SSB  
Wed - 7:30 PM - 8:30 PM  
Bob AF6C, Net Control  
146.55 MHz Simplex FM  
Wed - 8:30 PM - 9:30 PM  
Bob, WB6IXN, Net Control

### **VISIT OUR WEB SITE**

<http://www.w6ze.org>

for up-to-the-minute club information, the latest membership rosters, special activities, back issues of **RF**, links to ham-related sites, vendors and manufacturers, pictures of club events and much much more.

#### **Club Dues:**

Regular Members ..... \$20  
Family Members\* ..... \$10  
Teenage Members ..... \$10  
Club Badge\*\* ..... \$3

Dues run from January thru December & are prorated for new members.

\*Additional members in the family of a regular member pay the family rate up to \$30 per family.

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

## Heathkit of the Month by Bob, AF6C

### The HX-20 and HR-20 Twins

Last month we looked at the Heathkit Cheyenne and Comanche mobile twins. They were manufactured from 1959 into 1962, and while the receiver was adequate at receiving SSB with its product detector, the transmitter was strictly CW and AM, using rather inefficient screen-grid modulation. In the early sixties AM was on its way out and SSB was becoming much more popular and less expensive. SSB requires more stable circuitry, especially in the mobile environment. Therefore Heathkit, in 1962, replaced the MT-1 Cheyenne transmitter with the HX-20 (price not found), and the MR-1 Comanche receiver with the HR-20 (\$134.50). By that time Heathkit had either stopped using, or ran out of, popular Indian tribe names. Let's look at these two updated radios. You might want to reread last month's issue because some aspects of the equipment, especially the HR-20, are very similar.

Both the HX-20 and the HR-20 are the same size and look almost identical to their predecessors. They use the same part number cabinets and the front panel layouts are similar. Gone are the tribe names on the front panel, but the most obvious difference is on the HX-20 transmitter; the VFO slide rule dial is flat and has just two scales marked 0 - 500 and 500 - 1000. The dial is no longer etched on a cylinder that rotates with the band switch. The companion HR-20 receiver, though, still has the rotating slide rule dial. Also the newer radios use light text on a dark background instead of the older dark text on a light background on the meter scale and slide-rule dials. Let's take a closer look at these updated radios and compare them with their predecessors.



### The Heath HX-20 Mobile Transmitter:

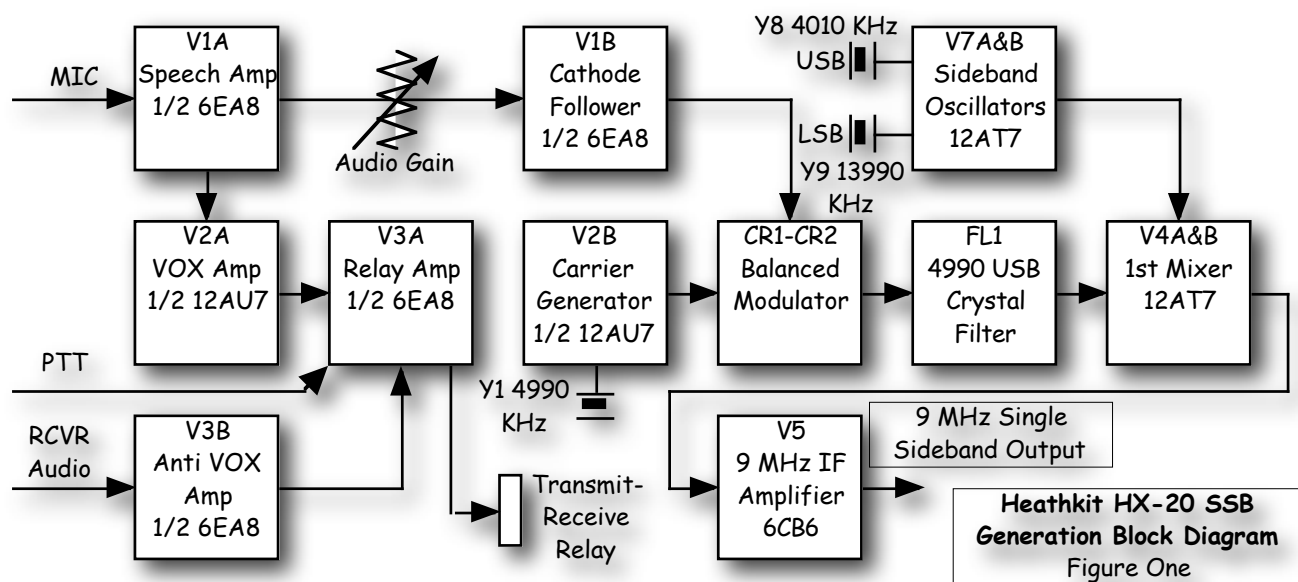
*I was unable to obtain much information on the web concerning this transmitter except for catalog specifications, a hard to read copy of the schematic and some poor resolution pictures of the radio. Using the schematic, I was able to piece together the block diagrams of figure 1 & 2. Thus the following information is my unconfirmed interpretation of how the HX-20 works.*

The HX-20 is almost totally redesigned and shares little in common with the MT-1 Cheyenne. It uses a single VFO that operates from 5.5 MHz down to 5.0 MHz. All the remaining oscillators are crystal controlled resulting in outstanding stability. Since no frequency multiplication is used, oscillator drift is not multiplied on the upper bands, resulting in better frequency control on the upper bands. The HX-20 uses the same rugged construction as the MT-1.

The transmitter uses thirteen tubes, including two voltage regulator (VR) tubes; six of the tubes are dual section. Sideband generation is done with a balanced modulator and a crystal filter. The radio runs 90 watts PEP using a 6146 final tube. CW mode uses grid-block keying. The transmitter covers 80 thru 15 meters and the first 1.5 MHz of 10 meters (28 - 29.5) in seven 500 KHz bands. Like the MT-1 the HX-20 requires a separate power

supply. Heath made the HP-10 mobile and the HP-20 AC power supplies to run these radios. Let's take a closer look at the HX-20:

ducing upper and lower sideband signals, but also balances out the carrier itself. This double sideband signal with its carrier suppressed is sent through a crystal filter that



### Audio and Switching Circuits:

The audio from the microphone is amplified by V1A and is fed through an audio gain control to V1B, a cathode follower. The cathode follower provides the low impedance required to drive a balanced modulator. The audio is also fed into a VOX amplifier which drives the relay amplifier V3A and activates a seven-pole transmit-receive relay when audio is present and VOX is selected. If push-to-talk (PTT) is being used, the PTT line directly switches the relay amplifier. To prevent receiver audio from activating the relay, it is amplified in the anti-VOX amplifier and nulls out any receiver audio picked up by the microphone.

### Sideband Generation:

V2B is a crystal oscillator operating at 4990 KHz. It generates an RF carrier that is fed into the balanced modulator that consists of two diodes and bridge balancing circuitry. The audio from the cathode follower is also fed into the balanced modulator. The balanced modulator modulates the carrier, pro-

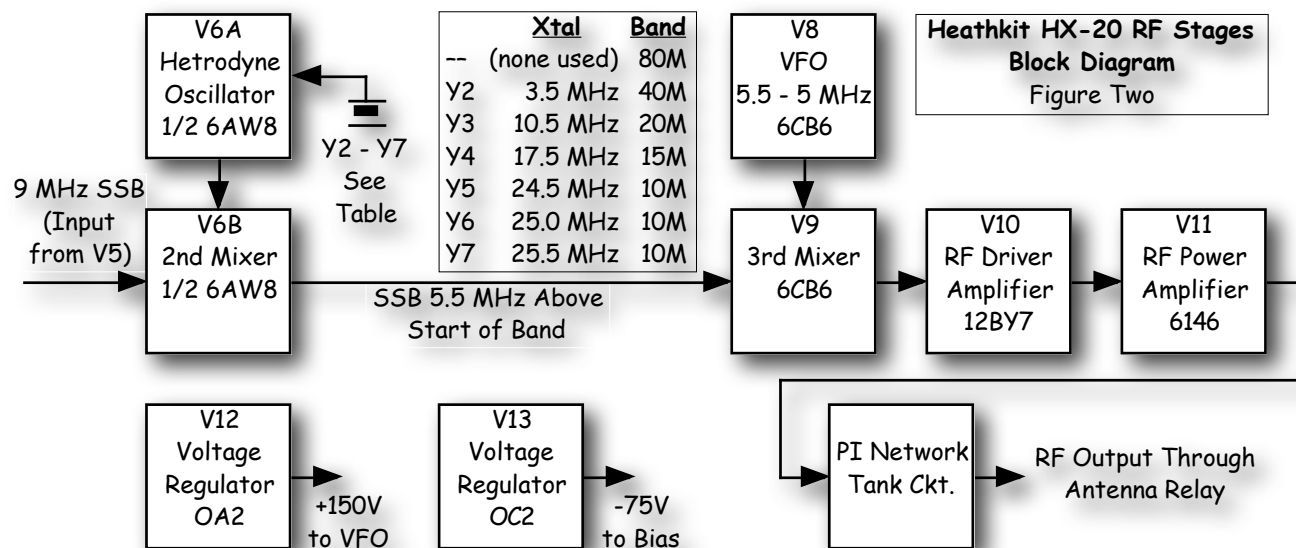
duces the lower sideband and further reduces any remaining carrier signal. The result is an upper sideband signal at 4990 KHz.

V7 is a dual triode tube that makes up the sideband oscillator. Each section is a separate crystal oscillator. Only one section operates at a time depending on whether USB or LSB is selected. The USB oscillator runs at 4010 KHz and the LSB oscillator runs at 13990 KHz. The 4990 KHz SSB signal is mixed with one of these two oscillator signals in V4, the first mixer. The output is a 9.0 MHz SSB signal on the desired sideband. When in the USB position, the 4990 KHz USB signal is added to 4010 KHz resulting in a 9 MHz USB signal. But when in the LSB position, the 4990 KHz USB signal is subtracted from 13990 KHz resulting in a 9 MHz LSB signal. The sideband inversion is due to the subtraction of the sideband signal from a higher frequency oscillator signal.



The 9.0 MHz signal is amplified in V5, a double-tuned IF amplifier that removes any unwanted frequencies created in the mixing process.

1000 KHz. The first scale is for 40, 20, 15 and the two 10 meter segments starting at 28 and 29 MHz. The second scale is for operation on 80 meters and on the 10 meter segment starting at 28.5 MHz.



### Frequency Conversion:

The 9.0 MHz sideband signal must be converted to the frequency of operation before it can be amplified powerfully and sent to the antenna. This is done in two stages. The second mixer, V6B adds the 9 MHz signal to the oscillator signal coming out of V6A, the heterodyne oscillator. This oscillator operates on 3.5 MHz for 40 meters, 10.5 MHz for 20 meters, 17.5 MHz for 15 meters and on 24.5, 25.0 or 25.5 MHz for the three 10 meter segments. On 80 meters the oscillator is off, and the 9.0 MHz signal passes directly through the second mixer. The output of the second mixer is a sideband signal that is on a frequency 5.5 MHz above the low end of the desired ham band.

The VFO, V8, is the only non-crystal controlled oscillator in the circuit. It is designed for stability and low frequency drift. The oscillator is wired so that it runs at 5.5 MHz at the low end of the dial, dropping linearly to 5.0 MHz at the high end of the dial. The dial itself has two scales: 0 - 500 KHz and 500 to

The VFO signal is mixed with the output of the second mixer in the third mixer, V9. The difference between the two signals is the desired operating frequency. Since the SSB signal is higher than the VFO signal, no inversion of sidebands takes place.

### RF Driver and Amplifier:

The driver stage uses a 12BY7 pentode, V10, to amplify the desired output from the third mixer. To prevent unwanted signals from passing, the driver grid and plate are tuned as part of the band switching, and a ganged four-section capacitor, adjustable on the front panel as Drive Tuning, peaks the driver. On CW the drive level can also be adjusted.

The RF amplifier is driven from the tuned output of the RF driver stage. This is one of the few Heathkit final amplifiers that uses a 6146 tube and doesn't use a PI network between the driver and final stage. The HX-20 has automatic level control (ALC) and if the

amplifier is driven too hard, causing the final tube to draw grid current, a voltage is fed back to the grid of the IF amplifier, V5, lowering the overall gain and helping keep the final amplifier operating in its linear region.

From this point the Heathkit HX-20 final amplifier gets a little unusual. First, the PI network used in the output stage has fixed loading capacitors that switch in for each of the different bands. The loading control, so common on HF tube radios including the MT-1, just isn't there. Second, the meter that monitors the final grid and plate current, and often other functions, on most tube amplifiers only has just one function on the HX-20 - relative output. The meter sensitivity is adjustable by a front panel control.

#### CW Keying:

The HX-20 has an elaborate biasing circuit requiring a negative 150 volts at low current from the external power supply. The bias is regulated in the transmitter to -75 volts using V13, an OC2 gaseous VR tube. In CW the bias to the third mixer and driver stages are keyed.

#### Front Panel:

The front panel layout shares some commonality with the Cheyenne MT-1 and also some differences. The **Band** switch, **Audio Gain**, **Final** and **Driver** tuning controls are the same, except 10 meters is now spread out over three positions on the band switch. The lever meter switch now is an **Operate - Standby** switch, the spotting switch has been replaced with a potentiometer for setting the meter relative power sensitivity; the Function switch is now the **Mode** switch. Also the MT-1's Loading control has been replaced with a **Driver Level** potentiometer for setting the CW drive level.

#### Rear Panel:

The rear panel of the HX-20 contains a lot more than the earlier Cheyenne. Also, less expensive connectors are used, a questionable change for equipment designed for the mobile environment. Left to right, the rear panel contains a **RCVR** power jack to provide receiver power; a **POWER** plug that mates with the power supply; **CUT OFF BIAS** jack for using a linear amplifier, **SIDE BAND BALANCE** adjustment potentiometer; **FUSE**; **RCVR ANT**; **RF OUT**; **KEY** 1/4" phone jack and **EXT RELAY**.

The power connectors are the octal tube socket variety (one male and one female), instead of the rugged Jones plugs used on the MT-1 and MR-1. Also, gone are the SO-239 UHF connectors for the RCVR and RF OUT; they are replaced by RCA jacks.



#### The Heath HR-20 Mobile Receiver:

Unlike the new HX-20 transmitter, the HR-20 receiver is very similar to the MR-1 Comanche it replaces, with a few circuit improvements. The only change in the vacuum tube lineup is that the multi-section 6T8 (triple diode - triode) and 6AQ5 (pentode) audio power amplifier of the MR1 were replaced with a 6BJ7 (triple diode) and a 6EB8 (triode - pentode). However functionally the circuit is similar.

One big change is in the product detector. Instead of a tunable 3000 KHz BFO oscillator, the HR-20 product detector uses a switchable crystal oscillator that operates on 2998.5 KHz for USB and 3001.5 for LSB. this makes tuning SSB signals easier.

A second change is in the AVC circuit. The MT-1 AVC switch had two positions, OFF - ON. The HR-20 allows two different time constants for the AVC. the switch is now OFF - SLOW - FAST.

A third change is in the filament circuitry. When running on 12 volts, as when operating mobile in a modern US car of the time that uses a 12 volt negative ground electrical system, the filament voltage can vary with engine speed. While this has little effect on most of the circuitry, it can cause changes in a critical frequency determining circuit such as the VFO. Thus Heath decided to regulate the VFO filament voltage on the HR-20. This capability is only available when running on 12 volts. The regulator uses a CDT-1337 (2N301 equiv.) PNP TO-3 transistor to provide the regulation.

#### Front Panel:

The HR-20 front panel layout is identical with the MT-1 with two exceptions: The BFO tuning control of the MR-1 was replaced with a two position **SIDEBAND SELECT** switch that chooses either the **USB** or **LSB** BFO crystal. Also, the **AVC** switch now has three positions: **OFF**, **FAST**, and **SLOW** instead of just off or on.

#### Rear Panel:

Mounted on the rear panel of the HR-20 are an **ANT** RCA jack; male octal **POWER** plug; ear **PHONES** 1/4" phone jack; **SPKR** RCA jack and **FUSE**.

#### Comments on the HX-20 and HR-20:

The HX-20 and HR-20 require an external power supply. Both require 6.3 or 12.6 volts (AC or DC) for the filaments and 300 volts DC. The transmitter also requires 600 volts and -120 volts. Originally Heath developed the UT-1 AC Power Supply and the MP-1 Mobile DC Power Supply for the MT-1 and MR-1. Later Heath replaced these units with the HP-20 AC Power Supply and HP-10 Mobile DC Power Supply. These are similar but also provide the negative bias voltage required for the later HX-20. The HP-10 is also more ruggedly designed than its MP-1 predecessor and runs more efficiently. The early radios will run off either supply, while the newer units require the later power supply.

While Heathkit was selling the HX-20 and HR-20, many manufacturers were going to single boxed transceivers that incorporate the transmitter and receiver in one unit. Heathkit, responding to the market, replaced the HX-20 - HR-20 twins with the SB-100 transceiver in 1965.

de AF6C



#### HAVE YOU EVER WONDERED...?

... why it is common practice to use lower sideband on 80 and 40 meters and upper sideband on 20, 15 and 10 meters?

Most early SSB exciters generated a fixed frequency upper sideband signal at or around 9 MHz. When heterodyned down to 3.5 or 7 MHz the sideband was inverted to lower sideband. However when heterodyned up to 14, 21 or 28 MHz the sideband was not inverted. Early rigs worked this way and had no switch to change to the other sideband.

This protocol remains in effect and is still the general rule today!





## SUPPORT OUR SPONSORS

The following organizations support our club's events in numerous ways. Please consider them when making your Amateur Radio and Electronics purchases:

### A&A Engineering

<http://www.a-aengineering.com/>

### ADI / Pryme Radio Products

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

### Burghardt Amateur Center

<http://www.burghardt-amateur.com/>

### The DX Store

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### Ham 4 Less.com

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### Hobby Radio stop

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### Universal Radio

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Your internet source for quality used gear







## OCARC Holiday Party!!!!

### December 12th - Save the Date!

Come and celebrate the Holiday season with OCARC on Friday, December 12th. See Paul, W6GMU or Kristin, K6PEQ at an OCARC general meeting or OCARC club breakfast, to make reservations. Paul may be reached at [w6gmu@w6ze.org](mailto:w6gmu@w6ze.org) and Kristin may be reached at [k6peq@w6ze.org](mailto:k6peq@w6ze.org) Remember to bring your spouse and friends too! Dinner tickets are only \$24 per person and includes family style food, non-alcoholic beverages dessert and one raffle ticket. Check <http://www.w6ze.org> for the latest info and details (click on Upcoming Events.) We will be having a great raffle again this year. The grand prize will be an **ICOM IC-7200!**

**Mark the date on your calendar!**

Friday night, December 12th at 7:00 pm.

**Location:** Jägerhaus Restaurant

2525 East Ball Road, Anaheim, CA 92806

Located on Ball Road, just west of the 57-Freeway.

[www.jagerhaus.net](http://www.jagerhaus.net) 714-520-9500



One free raffle ticket will be given to each paid attendee. Additional raffle tickets may be purchased at the door for \$1.00 each. Besides the Grand Prize, Dan and Kristin have put together a large assortment of other spectacular prizes.



There will also be a special ladies raffle!



## OCARC General Meeting Minutes for: November 11, 2009

The OCARC November General Meeting was held at the Red Cross complex in Santa Ana at 7 PM on Friday evening, November 21st. There were a total of 41 members and visitors present. A quorum of the club officers was present, with only club president Willie-N8WP (moved to near Boston, MA) not attending.

### PROGRAM:

Arnie Shatz - N6HC was our guest speaker telling the club about:

#### "TX5C Clipperton Island DX-pedition"



Fig 1 – Club Member Arnie-N6HC provided many good slides and good stories about the 2008 TX5C Clipperton Island DX-pedition.



Fig 2 – A view of the SSB Antenna Farm used on TX5C. There are about six sets of "twin-vertical-dipoles" for different bands in this picture.

Arnie-N6HC was a member of this 2008 operation and had many good slides and many good stories. Arnie told of DX-pedition's successes (71,794 QSOs in 156 hours [6.5 days] of operat-

ing) and of the few trials and tribulations and some planning that could be improved upon.

### OLD BUSINESS:

#### OCARC Bylaw Amendment:

A motion to accept the following amendment to the OCARC Bylaws was unanimously approved by the general membership at the meeting.

**"The officers elected to serve may hold office for two consecutive years if so elected annually by the membership. This amendment supersedes the current Amendment C that was approved in Nov 2000."**

As required for a Bylaws change, this amendment had also been previously discussed at the October club meeting. The club Secretary, Ken W6HHC, will incorporate the approved amendment into ARTICLE V, section A, of the club's BYLAWS and post the revised document on the WEB site.

### ELECTIONS:

#### 2009 Officer Elections

The yearly elections were held at the November meeting. The following is the list of new officers and directors for the OCARC in 2009 that were duly elected during the meeting.

#### OCARC Officers for 2009

|                        |                 |        |
|------------------------|-----------------|--------|
| <b>President</b>       | Nicholas Haban  | AF6CF  |
| <b>V. President</b>    | Kristin Dankert | K6PEQ  |
| <b>Treasurer</b>       | Paul Gussow     | W6GMU  |
| <b>Secretary</b>       | Kristine Jacob  | KC6TOD |
| <b>Activities</b>      | Dan Dankert     | N6PEQ  |
| <b>Membership</b>      | Bob Eckweiler   | AF6C   |
| <b>Publicity</b>       | Ken Konechy     | W6HHC  |
| <b>Technical</b>       | Hank Welch      | W6HTW  |
| <b>Member-at-Large</b> | Rich Helmick    | KE6WWK |
| <b>Member-at-Large</b> | James Noll      | AF6DE  |

Submitted by:  
Ken Konechy W6HHC  
OCARC Secretary





## OCARC Board Meeting Minutes for: December 6, 2008

The OCARC Board meeting was held at the JagerHaus Restaurant in Anaheim at 8:15 AM on Saturday, 2008-12-06. There were a total of 15 members and visitors attending. There was a quorum of directors present, with the following two officers absent: Willie-N8WP (moved near Boston) and Chris-W6KFW.

### DIRECTOR REPORTS:

- **Vice President** – Nicholas AF6CF and Kristin K6PEQ reported that the following programs are planned:
  - January is Chip-K7JA on Russian DX-pedition
  - February is John-KI6MCB
  - March is a new Digital Radio DVD Tutorial
- **Treasurer** – Paul-W6GMU reported that the club had ~\$3,800 in the bank accounts.

### OLD BUSINESS:

- **RF NewsLetter “Rotating” Editors**
  - December is Bob AF6C
  - January is Ken W6HHC
  - February is Kristin K6PEQ
  - March is Loran KD6LRD

- **Amendment to OCARC BYLAWS**

At the November 21 meeting, the membership unanimously approved by vote the new amendment to change the OCARC BYLAWS to allow the treasurer to server two consecutive years. The club Secretary, Ken W6HHC, will incorporate the approved amendment and post the revised BYLAWS on the WEB site.

- **Time Capsule**

Nicholas AF6CF reported that the contents of the “OCARC Time Capsule” will be sealed at December Christmas Party:

- Current QST and CQ magazine.
- Members encouraged to donate old OCARC badges, QSL cards, or other memorabilia.

- **Club QSL Design Contest**

The club has a contest to design a new QSL card for use by the OCARC. Designs will be

submitted at Christmas Party where the winner will be picked.

- **OCARC Christmas Party**

- The OCARC Christmas Party is planned for Friday, Dec 12th. Details appear in this issue of RF Newsletter.
- Please RSVP to Kristin-N6PEQ by Dec 10.
- The board approved a budget of \$700 to be used for prizes at this year’s Christmas Party.
- Dan-N6PEQ reported that a new ICOM IC-7200 rig is the grand prize this year. There will be a total of \$3,000 worth of prizes.

- **Morse Code Class**

Kristin-K6PEQ and Larry-K6YUI announced that a Morse Code Class is planned for Saturday, March 7th at the QTH of N6PEQ/K6PEQ.

### NEW BIZ:

- **2009 Field Day**

- Paul-W6GMU has agreed to serve as Field Day Chairman for 2009.
- Paul-W6GMU reported that he has been able to secure the Los Alamitos JFTB for the club’s 2009 Field Day efforts through the ACS (under OES).

- **Financial Audit Committee**

Nicholas-AF6C appointed Kristin-K6PEQ, Dan-N6PEQ and Hank-W6HTW to serve as a audit committee for 2008 Financial Report prepared by Paul-W6GMU.

Submitted by: Ken Konechy W6HHC



### **SPECIAL NOTE:**

**Due to the proximity to New Year’s Day and the many board members being out of town, the Breakfast / Board meeting has been moved one week. It will be held on the second Saturday January 10, 2009. This month only.**

## A HISTORY OF THE ORANGE COUNTY AMATEUR RADIO CLUB - Part 10

by Bob - WB6IXN, Club Historian

### \*\*\* THE MODERN ERA \*\*\*

#### **1986:**

In 1986, Frank Smith, WA6VKZ, received the president's gavel. The club published a monthly map of Halley's Comet locations in 'RF'. The Club finally (after years of building a "generator fund") purchased its first FD generator which remained under the care of Kei Yamachika W6NGO. Jim, N6JSV and Wyatt Berry, WB6BPX, paid off the remaining generator debt.

Before the internet and the QRZ web site, hams would buy a "paper copy" of the US call book or the International call book to find ham mailing addresses. But, callbooks were very expensive, and it seemed that each year they became more expensive. So, it was very expensive for an individual ham to "personally" own an updated copy every year. Therefore, back in the 1970's and early 1980's, the OCARC would buy a copy of the paper call books for the use of the OCARC membership. As Bob Eckweiler AF6C recalls: "...the membership chairman held the call books. I also further recall that while some years the call book got little use, on other years it got a lot of use. One of our membership chairmen, as I recall, asked people to limit their callbook inquiries to certain hours and certain days of the week. More than once I was in charge of the callbooks; and in one of those years, I remember one of our avid hams calling me in the middle of the night for an address to QSL to. I was polite the first time, but not the second time (which was either the same night or shortly thereafter.) We finally agreed on a time and I probably looked up a hundred calls for him over the last half of the

year". Finally, the paper copies got really expensive - maybe \$40 for the US copy and maybe another \$45 for the International copy. Around the mid-1980s, the club lost interest because of the expense and stopped providing this callbook service to members.

Field Day was held at MCAS(H) in Santa Ana. The Christmas Banquet was held at the China Gate Restaurant in Stanton.

#### **1987:**

Nineteen eighty-seven found the president's gavel transferred to Jim Talcott, N6JSV. Jim N6JSV, who had great artistic talents, was runner-up for the design of the ARRL Special Service Club logo, featured in July 1984 QST, page 51. OCCARO presented the Field Day Trophy for most contacts to OCARC; the club had won the trophy 9 times since 1970! El presidente had the vice president's office empty! Finally in February, Lloyd Harwood, WB6ULU, was elected our new vice president. In March, the Club breakfast began using Le Grand Café in Santa Ana. Ron Toering, KB6EZP and Bob, WB6IXN taught a Novice/Tech class. Lloyd WB6ULU was a member of WCARC's first VE team. Lloyd also handled scheduling for the 1987 OCCARO Booth at the Orange County Fair.

Field Day was held June 27-28 at Centennial Park, at Edinger & Fairview streets in Santa Ana. Past president Alex, W6RE, had a mild stroke and missed his first Field Day ever! Jane Watts, NØNE (no call yet), fed hungry mouths at FD. The Club's novice class participated in FD. AF6C reported 926 contacts for FD. The July Club meeting was a wine & cheese party held at Ken, W6HHC's QTH in Santa Ana.

On Sept. 9, an arsonist set a fire in Santiago Canyon in the Santa Ana Mts. With dry summer conditions, the fire quickly spread, which eventually brought 1,100 firefighters



to the staging area in Irvine Park. Ralph Alexander, W6RE, coordinated the Red Cross communications effort on 145.40 MHz, simulcast on 224.18, using the Western Amateur Radio Assoc. N6ME repeater. The communications operations began on the evening of Sept. 9, at 6:00 pm and ran with continuous operation until Monday evening, Sept. 14, at 6:00 pm. The N6ME repeater became inoperative on Sept 12 and Communications then shifted to the Anaheim repeater, K6SYU. The National Traffic System handled welfare traffic for the communications group. Frank WA6VKZ's portable packet station, with the able help of Ken W6HHC, originated messages for fire fighters at the Irvine Park staging area. During the emergency, more than 45 messages to friends & families of the firefighters were handled, through WF6O as a gateway station, by SCN1, SCN2, RN6, and Army MARS. Navy MARS was standing by in case of need. Numerous practical & supply needs and deployment of personnel messages were efficiently handled! A total of 39 amateurs were involved with fire communications, including six OCARC members.

Roy Maxson, W6DEY, the past-president who restarted the club after WWII and an OCARC Honorary Life Member, passed away in his sleep on Nov. 9 at his home in Vista, CA. The Club Christmas Party was held at Temple Gardens in Garden Grove on Dec. 19, 1987.

(To be continued next month)



**Civil Air Patrol Communicators Wanted**  
by James Noll - AF6DE

As Amateur Radio Operators, we are trained to use our skills to help during disasters,

Search and Rescue Operations and wherever we are needed to get the information passed to the proper parties. As amateurs we know what volunteerism us all about. There is another organization called the Civil Air Patrol or CAP for short. CAP is the Air Force Auxiliary. The Air Force Auxiliary performs many different functions like search and rescue, Border Patrol, Training Cadets, Emergency Services and a myriad of useful functions where and when they are a needed. There is one function that is absolutely critical to the operation of the Civil Air Patrol and that is Communications. The Communications department of CAP is "The Voice of Command" for the entire organization. From the Squadron all the way up to the National Level, Communications is where the action is. Without it, CAP is very limited. Much of what CAP does involves flying search missions and each of those missions needs communicators on both ends of the operation. One at Mission Base and others in aircraft acting as "scanners" sitting in the right seat in the plane. There are also ground teams that use communications to help find downed aircraft.

The Civil Air Patrol is in great need of quality communicators and I believe that Amateurs are a great place to start. Whether you fly or not, Civil Air Patrol need you. The Civil Air Patrol is a great place to have a lot of fun and do a lot of good.

If you are interested in becoming a communicator in CAP, Please contact James Noll - AF6DE at the following email address:

[af6de@socal.rr.com](mailto:af6de@socal.rr.com)

Please go to the following web address for more information on the Civil Air Patrol

<http://www.cap.gov/>



## NOVEMBER MEANS SWEEPSTAKES

The Orange County Amateur Radio club was well represented in the ARRL November Sweepstakes contest. Members heard on the air include Arnie - N6HC, Bob - AA6PW, John - N6QQ, Tim - K6GEP, Chip - K7JA, and Paul - W6GMU. Did we miss anyone?



The yearly ARRL November Sweepstakes is divided into two contests, CW and Phone, that occur on separate weekends. On the first weekend of November the CW contest ran from Saturday, Nov. 1st at 2100Z (1:00 PM local time) till Monday, Nov. 3rd at 0300Z (Sunday 7:00PM local time). Two weeks later the Phone portion of the Sweepstakes contest ran from Saturday, Nov. 15th to Monday, Nov. 17th over the same hours.

Like the Orange County Amateur Radio Club, the ARRL Sweepstakes contest is celebrating its seventy-fifth anniversary! In honor of this diamond anniversary the ARRL is presenting a "Clean Sweep" whisk broom to each contestant who worked all eighty ARRL/RAC sections during the contest.

There are four separate Single Operator classes: QRP - 5 watts maximum, Low Power - 5 to 150 watts, High Power - more than 150 watts, and Unlimited - any power and spotting assistance and skimmer use is allowed. Bob - AA6PW (PH & CW) participated in the Low Power class, Arnie - N6HC participated in the High Power class (PH & CW) and John N6QQ (PH) and Tim - K6GEP (CW) participated in the Unlimited class.. Tim missed all eighty sections by just two. Each of the others got clean sweeps, a multiplier of 80.

Arnie - N6HC made 1300 QSOs on phone for 208,000 points, and 1082 QSOs on CW for 172,960 points. His phone score is believed to be the highest claimed score for the ORG section in the HP class; he missed out on CW by a mere 23 QSOs. Arnie operated 20.5 of the allowed 24 hours on phone and 22.5 hours on CW

John - N6QQ, who borders Orange County but is physically located in the LAX section, reported a score of 137,280 points during 15.2 hour of operation to reach his clean sweep on SSB. November 15th was also a day of Santa Ana winds and big brushfires in LA and Orange counties, and John reported fighting high noise levels. John also reported that 15 meters was almost as good as 20 meters, and that 10 meters was not good at all. Arnie confirmed this. John further reported that 40 meters was his 'money' band.

Bob AA6PW achieved a clean sweep on both phone (96,000 points) and CW 145,920 points. It is believed his scores are the claimed high scores for the ORG section in the LP class.

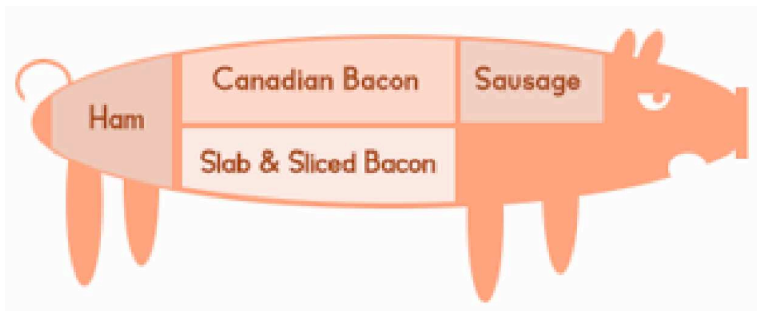
Tim - K6GEP finished with a respectable score of 34,320 points and 78 sections in 16 hours.

Here's an interesting observation by John - N6QQ. He reports that the LAX section was 'rare' during the phone contest. He commented that, "*Many stations were looking for LAX. Several stations stated I was their last section.*" Perhaps it was the Santa Ana winds or the fires that kept the LAX hams off the air?

The Sweepstakes results are usually published in QST in the May (CW) and June (Phone) issues and probably in more detail on the ARRL website.

de Bob, AF6C





## Ham Cuisine

*by Kristin, K6PEQ*

### Apple-Stuffed Pork Chops

#### Ingredients:

2 pork ribs chops, 1 1/4-inches thick, 2 tablespoons minced onion  
2 tablespoons butter, divided, 1/2 cup soft breadcrumbs  
1/3 cup diced apple, 2 tablespoons orange juice, divided  
1/8 teaspoon dried sage, 1/8 teaspoon ground black pepper  
2 teaspoons cornstarch, 1/8 teaspoon ground cinnamon  
2/3 cup apple juice, 2 tablespoons raisins  
2 teaspoons grated orange zest

#### Cooking Directions:

Heat oven to 425 degrees F. Cut an opening in each chop from the rib side, widening the pocket without cutting through to the other side of the chop; set aside. For stuffing, in a medium saucepan cook onion in 1 tablespoon butter over medium heat until tender, stirring, about 2-3 minutes. Remove from heat; stir in breadcrumbs, apple, 1 tablespoon orange juice, sage and pepper. Fill pocket of each chop with an equal amount of stuffing, place in a shallow baking dish, brush with remaining tablespoon orange juice. Roast for 20 minutes or until browned.

Meanwhile for sauce, in a small saucepan melt remaining tablespoon butter, stir in cornstarch and cinnamon; whisk in apple juice. Add raisins and orange zest. Cook, stirring, over medium heat until thickened and bubbly. Serves 2.

#### Serving Suggestions:

Autumn-inspired stuffing of apple and sage fills these roasted chops, which are served with cinnamon and orange-scented sauce. Serve chops with sauce, roasted potato wedges, buttered broccoli and warm dinner rolls.

## City of Orange Escapes Damage From "Green River" aka "Freeway" Fire!

by: Rich - KE6WWK

On Saturday November 15, 2008 the City of Orange Amateur Radio group (COAR) participated in the City/County RACES drill that followed the *Golden Guardian* drill held two days prior. Members of COAR arrived at the Orange city police station, where the COAR station is located, at about 8 am. We checked equipment, sent a member to the East-end police sub-station where we also have equipment, and we checked with the Watch Commander (WC) to let him know we were at the station conducting a drill. As we arrived we noticed that the winds were beginning to blow, and we also knew that signaled a fire hazard.



**A view of Yorba Linda towards Featherly Park from Anaheim Hills.  
(Photo by Lee Gudmundsen)**

The drill started at 9 AM and communication was established with other cities on two-meters, six-meters and 440 MHz. As the drill progressed the wind picked up and we were aware that OCRACES had opened their EOC, and Brea and Anaheim RACES were becoming more difficult to communicate with. At one point we became aware that the sky was turning dark with smoke and the

wind was blowing smoke towards our city. A check was made with the WC to let him know of the information we had obtained via the frequencies we were monitoring. We also asked about opening the EOC in the police station. Early on, the WC said he would be taking a wait and see position and wanted us to be available to help if needed. We were more than willing to help and we kept in touch with him.

As the gravity of the fire being pushed by the wind became apparent, the OPD Watch Commander asked that COAR assist in a "soft set up" of the EOC; meaning that the tables would be made ready but not all the equipment used in the EOC would be put out.



**Steve - KI6DDE helps set up the EOC inside OPD after the activation order.**

During this time we had asked our operator at the East-end police sub-station to check for smoke and flames from the area of Jamboree and Chapman. The report was that there was no visible sign of flames, and the smoke seemed to be more north of the city. Also during this time we announced on our frequency that the drill was stopped and we were in a "this is not a drill" mode. Members who were not at the station for the drill were asked to check their radio equipment and personal equipment and be ready to respond



to the station if needed. We had a member who was in a position further northeast of the east sub-station in the city who reported seeing flames and smoke from his location; but what he observed was not in the city. He remained at his post until the fire department came along and needed him to move so they could position equipment.

At the radio room in the EOC, the "Web EOC Program" was brought up on the computer so we could keep track of what messages the County EOC, and our own EOC, were sending and receiving. A log was kept so that we could document who was at the drill, who was ready to respond, who was working radios and who was out of the building on assignment.



**Beverly - KI6APH logging events in the COAR Radio Room at Orange PD.**

When the city manager arrived at the EOC, the WC asked that COAR members set boxes of equipment on the EOC tables so that if the EOC was fully opened the equipment would be there ready for the department heads to use when they arrived. The WC also called the swing shift officers, and because many live out of the city and beyond the fire lines, it took responding officers several hours to get to the station using surface streets. This of course very likely could be the case when a major earthquake hits.

At one point the fire was "two hours away from the city border" and we were bracing for the worse. As luck would have it the winds did not push the fire into the city and homes in Orange were spared. The city of Anaheim, right next to Orange, did evacuate citizens and many many of them chose to or had to enter the east end of the city to get away from the fire. That brought traffic in the east end to a stand still.

At about 6:30 PM the EOC was told to "stand down" as it appeared the danger for the city had lessened and we were told to go home but be ready to respond back if needed.

Members of COAR, as are all city police volunteers, are trained to help out where we are needed. So setting up the EOC, volunteering to take water to officers in the field, and just being ready to help anywhere we can was not different than any other emergency situation. COAR has 12 members and all of them were available and ready to respond to help the citizens of Orange by helping the police department.

If you live or work in the city of Orange and would like to be a part of this great organization, please call (714) 744-7328.

My thanks to all the COAR members, many who are members of OCARC and are ready to help the public in any way.

Rich Helmick - KE6WWK  
Radio Officer for COAR  
Publicity Chairman for OCARC



### **COMMENTS FOR RF NEWSLETTER?**

Send your comments and corrections to:

[rf\\_feedback@w6ze.org](mailto:rf_feedback@w6ze.org)

## OCARC WEB SITE TOPS 50,000 VISITORS

Ken W6HHC, OCARC web master, reported that on December 2nd 2008, the number of visitors to the W6ZE.ORG website since May 1998 have numbered 50,000! Ken stated "This year the OCARC WEB site has been averaging over 500 visitors per month! This is compared to the 200 visitors per month we used to see back in early 1999."

### Visitor Total

|        |          |      |
|--------|----------|------|
| 50,000 | December | 2008 |
| 40,000 | April    | 2007 |
| 30,000 | July     | 2005 |
| 20,000 | October  | 2003 |
| 10,000 | August   | 2001 |
| Start  | May      | 1998 |

In addition to use by OCARC members, it is quite interesting to note the many visitors

from other countries. The OCARC web site has made DXCC several times over. Here is just a sampling of international visitors during this year (in decreasing number of visits):



**Next RF Deadline is: JAN 7<sup>th</sup>**

The **ORANGE COUNTY AMATEUR RADIO CLUB, INC.**  
P.O. BOX 3454  
TUSTIN, CA 92781-3454

***First Class Mail  
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