



# RF



VOL. LV NO. 4

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

APRIL 2014



## THE PREZ SEZ:

Greeting and Disillusions!

As usual, for the month of April we have lots of fun activities, like the Visalia Ham Radio convention, Tax Day on the 15th and the daily earthquakes and lost planes. We will have yet another excellent brand new program about Old Radio by Whiskey Six Dairy Queen. The Vaker to Begas activity was a big success this past March with the OPD team having one of their best run times ever thanks to the absence of the OCARC President as part of this year's Pahrump communication team, due to a lame work excuse. Maybe you are not aware, but Field Day is around the corner with only a couple of months to prepare. We hope to have some Ham Operating classes to refresh everybody's mind on the operation of RF producing equipment, so us low skill operators learn the "ropes" of proper Field Day operation. I'm pleased to announce that we

have several positions filled and the site is secured thanks to the efforts of George N6VNI. We have Band, Food and Premises Captains already and we are in conversations with the higher powers to send us good propagation and sky waves. If you plan to obtain or upgrade your Amateur Radio license, you can do it during our Field Day activities too, as we will have a VE team during the activities. In closing, I wish everybody many happy returns on the 15th and hope to see you all at the next meeting.

74 DE AF6CF



## APRIL MEETING

At the April meeting Dennis Kidder, W6DQ will present *The History of the Development of the Modern Communications Receiver Part I*.

"Part I covers the first 75 years of 'wireless' leading up to the beginning of World War II. We an-

swer some nagging questions like: Who invented the first practical receiver? Was Marconi really the inventor of wireless? Who the heck was James Lamb and what did HE have to do with anything. We break the development down into a series of "defining moments" that lead up to where we are today. Spark to superhet, the first 75 years. We'll come back for Part II [at a future meeting - Ed.] that runs through the war years up to present day and we will make some predictions about the future."

**See you FRIDAY,  
APRIL 18<sup>th</sup> @ 7:00 PM  
Meeting location on pg. 2**

**Visit our Webpage:  
Scan this QR code with  
your smartphone or tablet.**



<http://www.w6ze.org>



<b>In This Issue:</b>	<b>Page</b>
THE PREZ SEZ .....	1
APRIL MEETING .....	1
CLUB INFORMATION .....	2
25 YRS AGO IN RF .....	3
RENEWING, JOINING ARRL ..	4
ARRL SWD CONVENTION .....	4
THE ?? PUZZLER ?? .....	4
HEATHKIT of the MONTH (Apr)	
The GDP-5457 Flashlight .....	5
APRS Class at HRO .....	7
HENRY 3K-A For Sale .....	7
FIELD DAY INFO .....	8
LEARNING the ARDUINO .....	9
MARCH MTG MINUTES .....	11
BAKER to VEGAS 2014 .....	12
WHERE'S Your ARTICLE? ....	17
WARA VE Test Sessions .....	18
On Foot XMTR HUNT .....	19
WORKING DX '14 STYLE! ....	20

**The Next OCARC Breakfast  
& open club Board Meeting  
is on Sat. MAY 10th.**

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



**2014 Board of Directors:**

**President:**

Nicholas Haban, AF6CF  
(714) 693-9778  
[af6cf@w6ze.org](mailto:af6cf@w6ze.org)

**Vice President:**

Tim Goeppinger, N6GP  
(714) 730-0395  
[n6gp@w6ze.org](mailto:n6gp@w6ze.org)

**Secretary:**

Tim Millard, KJ6NGF  
(714) 744-8909  
[kj6ngf@w6ze.org](mailto:kj6ngf@w6ze.org)

**Treasurer:**

Ken Konechy, W6HHC  
(714) 744-0217  
[w6hhc@w6ze.org](mailto:w6hhc@w6ze.org)

**Membership: (Updated)**

**Doug Britton, W6FKX**  
(714) 969-0301  
[w6fkx@w6ze.org](mailto:w6fkx@w6ze.org)

**Activities:**

Paul Gussow, W6GMU  
(714) 624-1717  
[w6gmu@w6ze.org](mailto:w6gmu@w6ze.org)

**Publicity:**

Robbie Robinson, KB6CJZ  
(714) 478-9713  
[kb6cjz@w6ze.org](mailto:kb6cjz@w6ze.org)

**Technical:**

Bob Eckweiler, AF6C  
(714) 639-5074  
[af6c@w6ze.org](mailto:af6c@w6ze.org)

**Orange County Amateur Radio Club Inc. [www.w6ze.org](http://www.w6ze.org)**

**Directors At Large: (Updated)**

Greg Bohning W6ATB  
(714) 767-7617  
[w6atb@w6ze.org](mailto:w6atb@w6ze.org)

**Tom Cowart KJ6UFJ**  
(714) 454-0571  
[kj6ufj@w6ze.org](mailto:kj6ufj@w6ze.org)

**2014 Club Appointments:**

**W6ZE License Trustee**

Bob Eckweiler, AF6C  
(714) 639-5074  
[af6c@w6ze.org](mailto:af6c@w6ze.org)

**Club Historian:**

Bob Evans, WB6IXN  
(714) 543-9111  
[wb6ixn@w6ze.org](mailto:wb6ixn@w6ze.org)

**Webmaster:**

Ken Konechy, W6HHC  
(714) 744-0217  
[w6hhc@w6ze.org](mailto:w6hhc@w6ze.org)

**Assistant Webmaster:**

Bob Eckweiler, AF6C  
(714) 639-5074  
[af6c@w6ze.org](mailto:af6c@w6ze.org)

**ARRL Awards Appointees:**

Arnie Shatz, N6HC  
(714) 573-2965  
[n6hc@w6ze.org](mailto:n6hc@w6ze.org)

John Schroeder, N6QQ  
(West Orange Co.)  
(562) 404-1112  
[n6qq@w6ze.org](mailto:n6qq@w6ze.org)

**OCCARO Delegate:**

Paul Gussow, W6GMU  
(714) 624-1717  
[w6gmu@w6ze.org](mailto:w6gmu@w6ze.org)

**RF Editor - Rotating:**

Bob Eckweiler, AF6C  
(714) 639-5074  
[af6c@w6ze.org](mailto:af6c@w6ze.org)

**Contact the Newsletter:**

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

**Submit Articles:**

[editors@w6ze.org](mailto:editors@w6ze.org)

**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.):**

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

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

28.375 MHz SSB ± QRM  
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

7.086 ± MHz CW OCWN  
Sun - 9:00 AM - 10:00 AM  
John WA6RND, 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:**

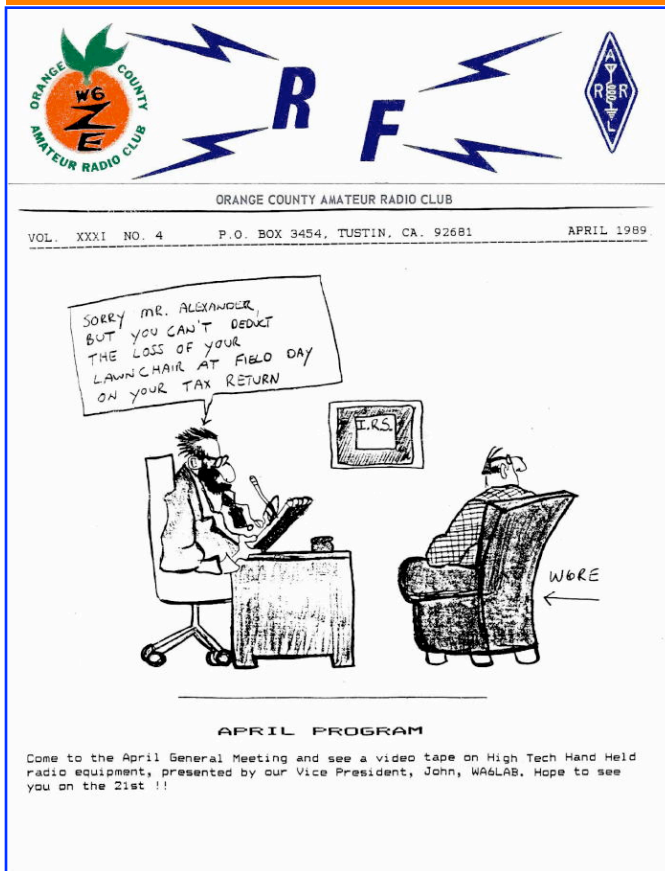
Regular Members ..... \$20  
Family Members\* ..... \$10  
Teenage Members ..... \$10  
Club Badge\*\* ..... \$3

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. We prefer you pickup your badge at a meeting.

New members joining after midyear may choose to pay for the remainder of the year and the next year at a savings of \$5.

- 25 Years Ago in RF Newsletter -  
April 1989:



The front cover of the April 1989 issue of RF was a cartoon (artist unknown) poking fun at Alex, W6RE who had lost a lawn chair at the previous Field Day, which, up to that time, had not been found. This RF features a color banner on the front page; a batch of color front-page blanks for RF had been printed and used occasionally when RF was Xeroxed. Unfortunately the blanks were not truly 8-1/2 x 11" and often played havoc in the copying machines. The editor for this RF was Mark Stanford, KJ6JC.

The newsletter, which was ten pages, plus an included club roster, introduced the upcoming April program by then club VP, (and still club member) John Roberts - WA6LAB (now W6JOR). John was to present a video on High Tech Handheld Radios.

There was no official **Prez Sez** column because then President Frank Smith - WA6VKZ was

hurting from a car accident. However, Frank did ask the editor to remind everyone about getting prepared for the upcoming Field Day.

Announcements were published including: Vic WA6RNA was looking for ham volunteers to provide communications for the 9th annual Veterans Admin. Wheelchair Games coming that June. Hamcon 1989 was to be held in late August at the LAX Hilton hotel. The breakfast site had been moved to Denny's. Also published were the minutes from the previous club meeting.

A page was dedicated to thoughts by the ARRL and CQ magazine on the proposed No-Code amateur license, including the results of a pole taken by CQ.

An article featuring the Southern California DX Packet Cluster was presented. This was a predecessor of today's Internet based DX Clusters.

Bob, WB6IXN provided two-and-a-half pages of Net Notes as well as an interview with Ed Heffner, W6CNK, an old timer who talked of hamming in Santa Ana back in the 20s and 30s.

Another tidbit in RF was the current ham population (440,311, of which 80,168 were novices!) Also a packet blurb on the ARRL DX Bureau, told of a new record being set when W9SU sent in a package of QSLs for distribution that weighed 54 lbs.

Folded inside the newsletter was the April 1989 club roster. It listed 39 members. Some of the calls on the list are still members or associates today, including: AF6C, KA6IMP (now KJ6ZH), KD6XO, KI6DK, N6IDE (now W6KOS), N6UC, W6HHC, WA6LAB (now W6JOR), WA6WZO, WB6IXN, WB6OWD (now N6GP) and WB6ULU.

To read the full newsletter you only need to go our website and, in the index on the left, click on '**RF**' Newsletter under **Club Library**. From there scroll down to 1989 and click on August.

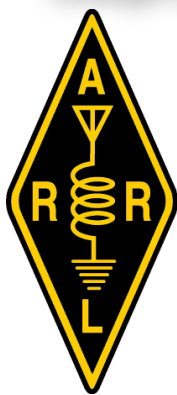
de Bob - AF6C





### Let the Club Handle Your ARRL Renewal

Over the past few years very few members have taken advantage of joining or renewing their A.R.R.L. membership through the club. The club benefits by receiving a commission when a member joins or renews through the club. If you wish to join the ARRL, see the club Treasurer for a form. You pay the Treasurer directly and he will submit your form. If it is time to renew, bring your renewal notice to the Treasurer along with your renewal check made out to the OCARC and he will handle the submission. (you can renew early, even before you receive your renewal notice. Just see the Treasurer.)



### ARRL 2014 S.W.D. Ham Convention

The 2014 Southwestern Division ham convention, sponsored by SANDARC, will be held September 12th to 14th in San Diego, CA. at the Four Points Hotel by Sheraton. For more info scan the QR-code or visit their website at:

<http://www.sandarc.net/~convention2014~/index.php>

Early bird registration (\$18) ends May 31, 2014. Pre-registration (\$22) ends August 26, 2014. Price is \$25 at the door.

Ward Silver - NØAX will be the keynote speaker at the grand banquet. A limited number of banquet tickets are available for \$45. There will also be a flea market, VEC exam session, and a T-Hunt and lots more.



### ?? PUZZLER ??

It's been awhile since the newsletter carried a puzzler. Here is one to keep you busy should a solar storm quash the band propagation. This puzzler should not be too difficult, so give it a try. After a day of CQing it's good to get a little mental exercise!

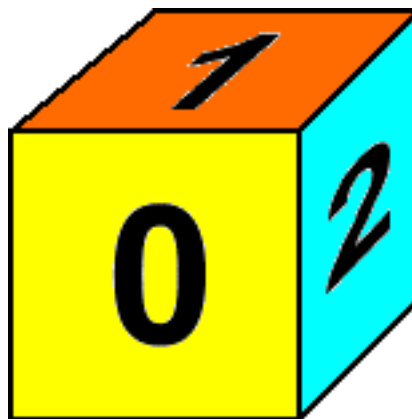
***You have two wooden cubes and a broad black felt-tip pen. You want to be able to use the cubes to represent the numeric day of the month by writing one digit on each of the faces of the two cubes.***

***How do you do this so that any date of the month 01 through 31 may be displayed using both cubes?***

This should not be too hard, so give it a try and send your answer to:

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

The names of the first ten entries with the correct answer received by May 4th will be published next month! You need not be a club member to submit an answer.



### ?? PUZZLER ??

Heathkit® of the Month #55:  
by Bob Eckweiler, AF6C

# Heathkit®

## ARTICLE for APRIL Heathkit GDP-5457 Miniature Flashlight

### Introduction:

It's April again and, sadly, I received only one response to my multiyear query of Heathkits powered by gasoline (See the HOM articles for April, 2011, 2012 and 2013). The writer, whom I will only say is from Bugscuffle, TN (he knows who he is), commented that "Who cares about gasoline powered Heath stuff...?" (*See Editor's note at end for a response received from Australia after this article was written.*)

Thus, as promised last year, this month's article covers a Heathkit "give-away" flashlight. As there is only so much I can write about a flashlight, this will be a short article indeed!

In the eighties Heathkit was offering free gifts with your purchase. Thus with the purchase of an ID-2295 Indoor/Outdoor Digital Humidity Meter from an early 1988 catalog, I also ordered the free Heathkit branded GDP-5457 Tekna Micro-Lite flashlight.

### Heathkit GDP-5457 Tekna Flashlight:

The GDP-5457, shown in figure 1, is a miniature flashlight made in the USA and sporting the Heathkit logo in dark red. It came completely assembled; however, any good kit aficionado can field strip the GDP-5457 flashlight into its ten component parts (see figure 2) and reassemble it in a matter of minutes. This is one Heathkit where the manual failed to provide clear instructions - there was no manual. The specifications for the GDP-5457 are given in table I.

Probably the most exotic feature of this 'kit' is the choice of batteries. The GDP-5457 uses two of the comparatively expensive (\$2.00 to \$3.50



Figure 1: GDP-5457 Flashlight

range ea.), and difficult to find, 'N' alkaline batteries. For those unfamiliar with the 'N' battery, it is 3/5th the length and slightly smaller in diameter than the standard AA battery. The

### Specifications: Heath GDP-5457

Size:	4-3/8" x 1-1/4" dia.
Weight:	2 oz. (with batteries)
Batteries:	2 x 'N' size 1-1/2V alkaline
Bulb:	#222 2.25V @ 0.25A
Battery Life:	Approx. 1 hour continuous
Attachment:	5/16" hole for lanyard

Table I



Figure 2: Flashlight components (clockwise from lower left): Case (with O-ring installed), Bracket, Spring (shown mounted on bracket), bulb, socket, batteries, reflector, lens cap ass'y.

'N' battery is used in some cameras and many HP calculators such as the HP-41C.

The GDP-5457 flashlight uses the common #222 focused bulb (TL3) with a miniature screw base. This bulb is typically used in pen-lights. It has a short life of 5 hours and probably lasts even less than that due to the 2.25 V lamp being run on 3 V when the flashlight batteries are fresh. The bulb will easily outlast a few sets of batteries. An outline of the #222 bulb is shown in figure 3.

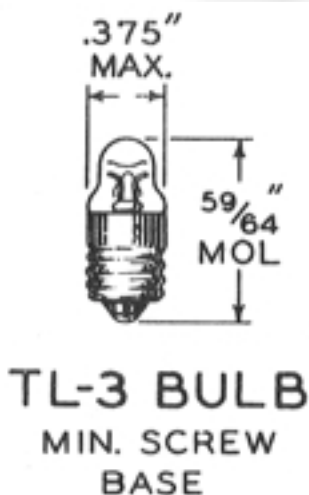


Fig. 3: #222 Outline Dwg.

#### Operating the GDP-5457 Flashlight:

This flashlight has no **On/Off** switch per say. Instead it is turned on by turning the threaded lens cap, tightening it onto the case. An o-ring on the case provides mechanical resistance to prevent the lens from easily turning accidentally and draining the batteries unexpectedly. This o-ring also provides some protection against water entering the flashlight should it find itself in a wet environment.

To use the GDP-5457 you just turn it on and point it to where you need light - but you already knew that; it's just plain intuitive, which makes this Heathkit worthy of a special April honorarium article. Also, remember to turn it off!

#### Conclusion:

This flashlight has been in use now for over 25 years - that's hard to believe. For years it was stationed by the home thermostat so the heat could be checked in the darkness of night. That service was relegated some years back to a Harbor Freight 9-LED flashlight (also often free with a minimum purchase), and the Heathkit flashlight was moved into the kitchen for those moments when a little extra light is needed.

Other than trying to find (reasonably priced) "N" batteries, this device continues to serve well!

73, from AF6C



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

*Thanks - AF6C*

*This article is Copyright 2014 R. Eckweiler and The OCARC Inc.*

#### Editor's Note:

*After this article was written I did get a real response to my challenge of naming "other gasoline powered Heathkits". Unfortunately, I was so sure I would not receive anymore answers, I wrote the article immediately (late last April 2013), and the response came later, in August.*

*Since the response came from Australia, and none were received from any club members; nor even anyone living in the Americas (Bug-scuffle excepted) I decided to go ahead and use the article for this April. After all, it is probably a Heathkit collector's item! Here is the response I received from Justin in Australia:*

**August 5th, 2013**

**Hi Bob,**

**Can't believe no one suggested the Boonie bike. They are still popular!**

**Thanks for the articles - I enjoy reading them.**

**If looking for ideas, maybe you could do one on Nixie display kits, or Panaplex. Heath made clocks, DMMs, counters - of which I have a few.**

**Justin VK2CU**

*I will try to cover some of the Heathkits Justin referred to in his email. - af6c*



**APRS CLASS AT HRO ANAHEIM  
APRIL 10th**



Baker to Vegas has come and gone, but APRS continues to be of interest to those experimenting with various digital modes.

Wouldn't you like to know more about data communications? Did you know APRS radios can be used as packet digipeaters to extend the range of your VHF/UHF radios?

APRS allows packet radio to track real-time events, and HRO is fortunate to have as an employee Phil Pacier, AD6NH, a "retired 9-year veteran" of the Baker to Vegas Challenge Cup Relay.

Phil has been continually active in APRS for years, and was instrumental in setting up the first APRS trackers on the Baker to Vegas teams.

Phil has graciously volunteered to help educate anyone who can make it into HRO-Anaheim on Thursday, April 10 for an hour at 11AM on the ins and outs of APRS. Everyone is welcome, and if successful, we will try to schedule monthly forums on various topics of interest.

Remember, that's Thursday, April 10 at 11AM. Come learn about APRS!

Kind 73,

Janet Margelli, KL7MF (714) 533-7373 Tel  
Manager (800) 854-6046 Tel  
Ham Radio Outlet (714) 533-9485 Fax  
933 N. Euclid St.  
Anaheim, CA 92801

[anaheim@hamradio.com](mailto:anaheim@hamradio.com)



**ESTATE SALE  
HENRY 3K-A 2KW HF AMPLIFIER**

For sale from a ham's estate, one Henry 3KA HF Linear Amplifier. This amplifier is being sold "as is". The sale is being handled by Brian Stapleton - KW6J. He may be reached at:

[stapleton@gtcinternet.com](mailto:stapleton@gtcinternet.com)

The late owner took good care of his equipment. The amplifier comes from a non-smoking shack and appears to be in good condition externally. It is believed he didn't use the equipment for a couple of years before he died, and it has been in storage for a couple of years since his death.



The Henry 3K-A, it is a heavy duty HF amplifier capable of operating on any six bands between 3.5 and 30 MHz. The standard configuration is 80M, 75M, 40M, 20M, 15M and 10 M. Maximum input power is 3KW PEP SSB, 2KW CW and FSK, and 1KW AM. The 3KA uses a pair of 3-500Z final tubes. It measures 32-1/2" high x 16" wide x 20" deep, and weighs 167 pounds net. The manual is on the BAMA website.

Asking price is \$1,700.





# Field Day 2014

**June 28 and 29<sup>th</sup>**

**24 hours of setup will begin Thursday June 26 at 1700 Hrs. (5 PM)**

**The OCARC Field Day will again be at the Walter Knott Education Center in Buena Park.**

**Our next planning meeting will be at Bob and Gloria Harrington's (AA6PW & KE6GLG) at 6782 Vanguard Ave, Garden Grove, at 7PM on Fri. April 25.**

**VE Testing is scheduled to be held at FD site: on Saturday June 28<sup>th</sup> at 1300 Hrs. (1 PM)**

*de AF6CF & N6GP*





## Learning the Arduino Microcontroller

Have you ever wanted to enter the world of designing, programming and developing interactive objects and environments using a small imbedded microcontroller? Perhaps the cost of a development system, the effort of learning the chip's assembly programming language, or the need to catch up on your electronic theory first, prevented you from getting started? Well, now is a good time to rethink learning these skills.

**Nuts and Volts** magazine columnist Joe Par-due recently started a basic hands-on course called **The Arduino Classroom: Arduino 101** in his monthly Smiley's Workshop column. The first lesson was in the January 2014 issue, with a new lesson each month since. The magazine is a derivative of the old **Nuts and Volts** large format magazine that was handed out at many swapmeets. Today it is a magazine that, while not directly ham focused, is focused on electronic projects, many of which might interest hams. It is a magazine worth subscribing to, especially since all the other hobby electronics magazines from the USA seem to have vanished (Popular Electronics, PopTronics, Radio & Electronics, etc.). Past Arduino 101 articles are also available on the Arduino Classroom website. More projects and information are also available on the Smiley Micro website. Links are given at the end of this article.

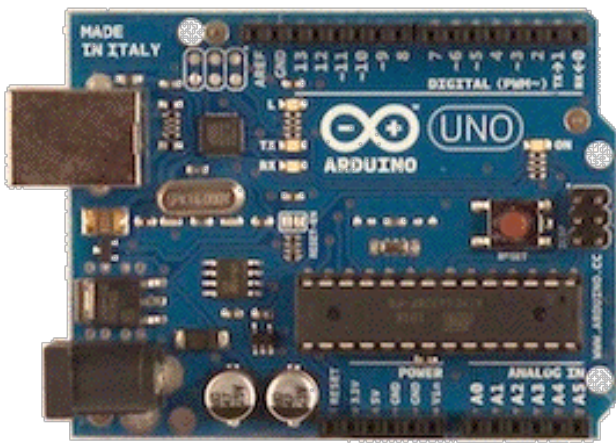


Figure 1: Arduino Uno Board

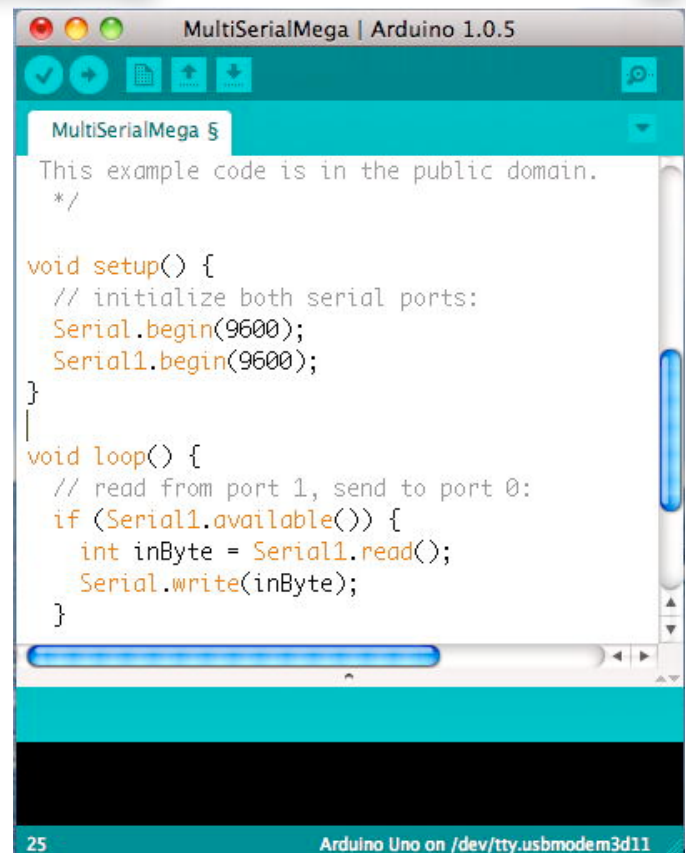


Figure 2: Arduino IDE\* for the Macintosh (\* Integrated Development Environment)

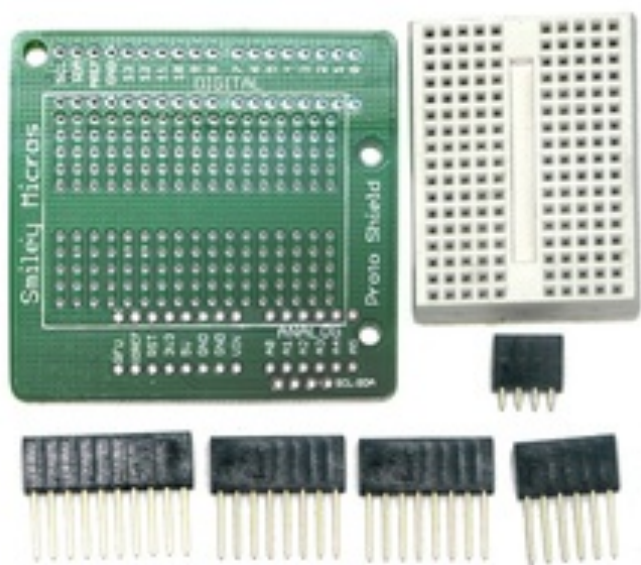
The Arduino Uno is a microcontroller development system that is widely available and is based on the Atmel ATMEGA328P 28-pin chip. The UNO board (see figure 1) sells for \$30 to \$35 each and the development system is a free download. It can run on various platforms including Windows, Macintosh and Linux. The development system includes a high-level programming language (a version of 'C'.) The bare chip sells for under \$4 each if you want to use one stand-alone in a finished project.

**Arduino 101** teaches the very basics. Yet each lesson (so far) teaches you a little more about basic electricity and electronics, programming (sketching), and using the development interface. So even if you are up on your electronic theory, but new to programming, or microcontrollers in general, each lesson will have something to teach you. As you learn, you will be wiring circuits and programming your Arduino Uno. A very hands-on approach to learning.

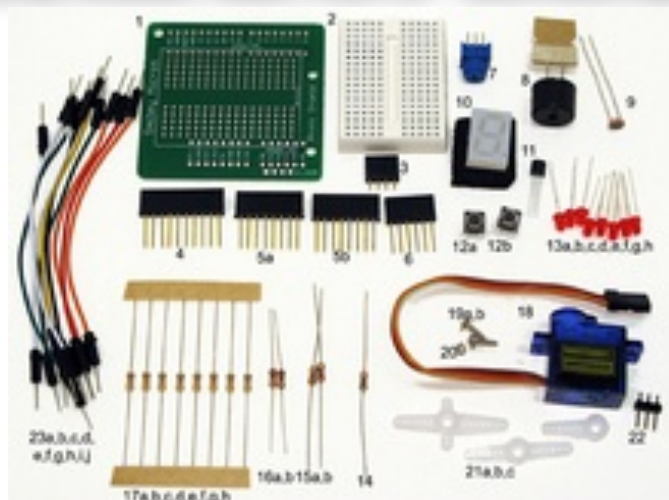
One caveat if you are at all familiar with micro-controllers, the Arduino comes with a language all its own! No, I'm not talking about a programming language, I'm talking about the technical language used. Programs are called *sketches*, compiling is called *verifying*, and daughter boards are called *shields*, just to give a few examples.

The development system, more correctly the IDE (Integrated Development Environment), is a software program you download and install on your system. Installing the IDE onto a PC is given in the first lesson. My installation on an Intel Mac went smoothly and quickly. Figure 2 is a partial screen shot of the IDE. With my limited experience with it, it seems simple yet powerful. The computer connects to the Uno using a standard USB A to B cable.

Besides your computer with the IDE installed, a USB cable and an Arduino Uno board, you need a prototyping board. Smiley Micro sells one, their Arduino Proto Shield, as a simple kit for \$16.99 (Figure 3). You will also need a handful of electronic components such as LEDs, resistors, capacitors, pushbuttons, an RC servo, etc. Instead of buying these separately, you can purchase the Arduino 101 Parts Kit for \$44.99. The kit includes the Proto Shield kit as



**Figure 3: Arduino Proto Board Kit**



**Figure 4: Arduino 101 Parts Kit**

well as all needed components including an RC servo with accessories (Figure 4).

So far I've been impressed with the way the course has unfolded. It does not take for granted what you know. Basics, like a simple circuit and wiring an LED are covered, yet at the same time you are learning the programming language instructions and architecture of the UNO needed to make that LED do what you want it to do!

Give learning the Arduino a try. Some inks to explore are:

[www.nutsvolts.com](http://www.nutsvolts.com) - the magazine,

[arduino.cc/en/Main](http://arduino.cc/en/Main) - download IDE, much more,

[www.smileymicros.com](http://www.smileymicros.com) - proto shield, parts kit, more,

<http://www.arduinoclassroom.com> - Arduino 101 articles,

<http://www.arrrl.org/ham-radio-for-arduino-and-picaxe/>  
- ARRL book with many ham related Arduino projects.

It's time for you to start learning and developing. The club is looking forward to seeing YOUR latest Arduino projects at a Show & Tell session soon!

73, from AF6C





### March 2014 General Meeting Minutes

The OCARC General Meeting was held at the Red Cross Complex on March 21st 2014. The meeting was called to order at 7:05 pm, 2:05 UTC. There were 31 people, including 3 visitors, in attendance.

Our main speaker for the evening was Wayne Overbeck – N6NB. Wayne is well known in the Ham community having been a featured speaker at conventions and meetings going way back. He also is well known professionally as an author and Professor of Communications at Cal State Fullerton. His topic for the evening was “The Tower Trailer Project”.



Over the years, Wayne has built and used over 10 tower trailers which he has taken all over the US. Wayne's current method to getting a trailer project going is to buy a DIY trailer kit from Harbor Freight or Home Depot. The kit provides a basic framework which can be assembled and ready for towing the same day. The 1st step is over to the DMV to get the trailer registered and street legal. After that the real work begins.

Wayne shares many of the details of his latest projects on his website at:

<http://n6nb.com/twrtrlr.htm>

Currently one of Wayne's trailers is being used at a home site he has in Panorama Heights, CA.

where he can quickly put up an antennas for short term use and then just as quickly have it out of sight and out of mind.



After Wayne's talk we had a short Field Day planning meeting. A straw poll indicating that at least half of those in attendance plan on being part of this year's club field day event.

After a short break the meeting was reconvened. A quorum of officers was present as follows:

Nicholas – AF6CF, Tim – N6GP, Tim – KJ6NGF, Paul – W6GMU, Tom – KJ6UFJ, Greg – W6ATB.

President Report – attended the Palm Springs Hamfest.

VP Report – next month's speaker is Dennis Kidder - W6DQ on History of Receivers, Part 1.

Announcements: April 10, 2014 11am APRS talk at HRO in Anaheim.

There will be a VE testing session at this year's Field Day thanks to George – N6VNI.

2014 ARRL Southwestern Division Convention is Sept 12-14 in San Diego.

<http://www.sandarc.net/Convention2014/index.html>

Scout-O-Rama tickets available at next General Meeting.

Meeting adjourned at 8:46pm, 3:46 UTC.

Respectfully submitted by:  
Tim Millard, KJ6NGF,  
Secretary 2014.





## City of Orange PD Communications during the Baker-to-Vegas Race 2014

by Ken W6HHC

Since 1985, law-enforcement running teams (from around the world) have entered in a competitive foot-relay-race through the desert. This race, known as "Baker-to-Vegas" (and aka B2V), is a 120 mile long race, that starts outside Baker (CA), runs through the desert to Shoshone, then runs through Pahrump, NV and finishes at the LVH Hotel (previously known as Hilton) in Las Vegas. (see Fig 1) The B2V race is broken into 20 "legs" or stages. This year, more than 265 different law enforcement teams participated. The runners of the Orange Police Department have been supported for many years with communications by hams belonging to COAR (City of Orange Amateur Radio) RACES, the OCARC members, and communications volunteers from Cypress. This year, ten OCARC members helped the OPD running team by providing planning, equipment testing, and communications over the entire race course.

The COAR RACES activities for the 2014 races began at least five months before this year's race began. The COAR B2V communications project required the following five phases:

- Planning and Training Sessions
- Equipment Testing Workshops
- Equipment Set-up for the Race
- Staffing and Operating the B2V event
- Post B2V Review Sessions

The City of Orange RACES plan was to set up five communications centers along the B2V race course in order to provide a "communications backbone" to support the mobile units used during the race.

- Ibex Pass, California
- Shoshone, California
- Pahrump, Nevada
- Sandy Valley Rd (near Rt 160), Nevada
- Las Vegas, Nevada

The race started on Saturday March 22 and finished Sunday morning. This year, the Orange PD running

team finished very well and placed 35 out of more than 265 teams. The OPD running time broke the elusive 16-hour barrier for the first time ever. The running time was 15 hours 39 minutes. The race through the desert had VERY reasonable temperatures this year, about 75 degrees when the OPD runners started at 4 PM in the afternoon (much better than 110 degrees in 2012).

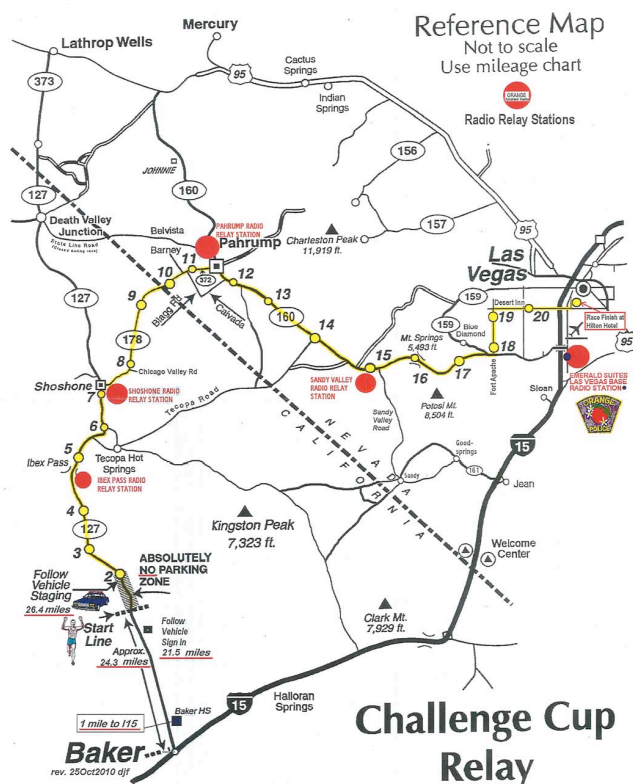


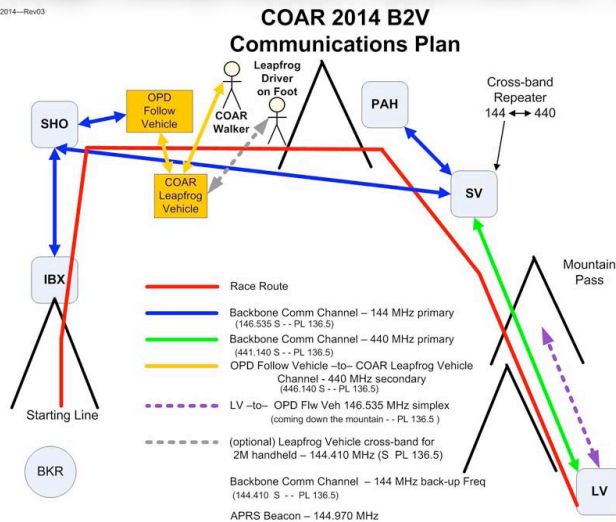
Fig 1 – Map of 120-mile-long B2V Race that starts about 18 miles outside of the city of Baker on Route 127. Red DOTS are COAR Communication Centers.



Fig 2 – Several B2V planning and training meetings were held by COAR RACES at Orange Police Dept to work out details and personnel assignments. Shown on the far left, Bev Helmick KI6APH was the B2V Co-ordinator for this year and is shown here conducting one of the many planning and training meetings.

(Photo by Carmen Cardenas of OPD)

2014-Rev03



**Fig 3 – This Diagram is for 2014 Communications Plan for COAR RACES. The Orange PD runner's Follow-Vehicle was always in contact with one of the five COAR Communications Centers.**  
(Diagram by Ken W6HHC)



**Fig 4 – Kathleen K6IBH provided training on operating from the Follow-Vehicle at a planning meeting.**  
(Photo by Ken W6HHC)



**Fig 5 – Ken W6HHC (seated at far left) sets up a test bench (before the race) for voice radios and APRS to be used at the Pahrump Comm Center at his QTH.**



**Fig 6 – The “Leapfrog” vehicles provided communication to the runner's gate via a “walker” with a handheld near each starting point and also to the “follow-vehicle” that was approaching to that check-point. This photo shows the car markings by the Guice family (KG6MIF, KG6MIG, and KG6MIH) displaying their normal “team spirit of OPD”.**

(Photo by Bobbie KG6MIF)



**Fig 7 – The ham-radio-equipped OPD “Follow-Vehicle” travels right behind the OPD runner to provide water, energy-food, and communications to any of the COAR communications base stations. Here, all the vehicles at “staged” one mile past the start line to wait for the next group of runners.**

(Photo by Bobbie KG6MIF)



**Fig 8 – OPD runner officer Contreras begins his stage 4 leg, through the desert. OPD Follow-Vehicle is right behind him.**

(Photo by Bobbie KG6MIF)





Fig 9 – The OPD runner officer Contreras (in white shirt) hands off the baton to the fifth runner, officer Allen at the beginning of leg five.

(Photo by Bobbie KG6MIF)



Fig 10 – 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 competing teams.

(Photo by Byron KC6YNG)



Fig 11 – This is the COAR Communications Center located at Shoshone that was headed by Rich KR6BA (seated). Shoshone could send the signals clearly about 45 miles to cross-band repeater at Sandy Valley

(Photo by Steve KB6ROL)



Fig 12 – This is the antenna system that was used at the Shoshone Communications Center. The left mast with the hitch-mount-support holds the 144 and 440 MHz voice antenna.

(Photo by Steve KB6ROL)



Fig 13 – As night time...the runner exchange points take on a "night life" atmosphere along the course.

(Photo by Bobbie KG6MIF)



Fig 14 – On Saturday morning before the race, COAR members gather for a leisurely breakfast in Pahrump.

(Photo by Ken W6HHC)





Fig 15 – Monitoring the “race radio traffic” in the Pahrump Comm Center are (L-R) Quent W6RI, Ken W6HHC, and Vern KG6OXD.  
(Photo by Bob AF6C)

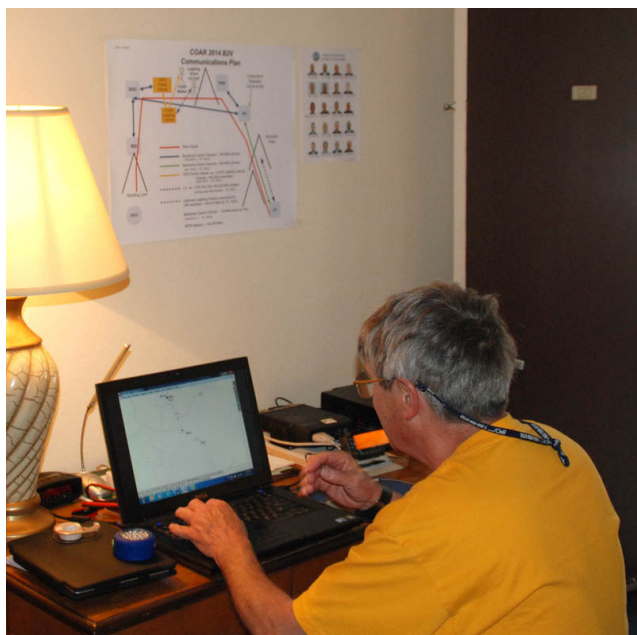


Fig 16 – Bob AF6C was the APRS-guru in Pahrump Comm Center this year. Bob was amazed at how well APRS was received from the Team 48 Follow-Vehicle.  
(Photo by Ken W6HHC)



Fig 17 – The COAR Leap-Frog car stopped to visit Pahrump as the runner was approaching. Jay KI6WZU is driver and Quent W6RI is “Walker”. Will KJ6IA is Rover-1 (standing) and does a quick chat.  
(Photo by Ken W6HHC)

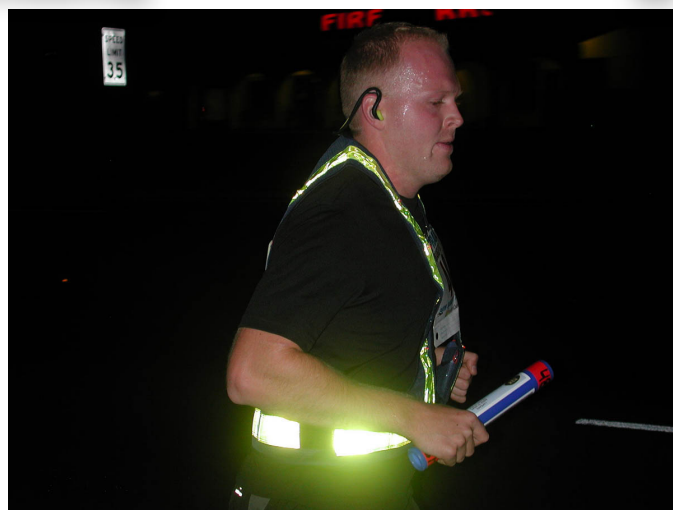


Fig 18 – Just before midnight, OPD officer Tennant ran through the dark streets of Pahrump. The COAR cheering section from the Comm Center ran out to cheer him on.  
(Photo by Bob AF6C)



Fig 19 – I think of the Sandy Valley comm center as being in the “middle of nowhere”. The cross-band repeater sent signals down both sides of the mountain...  
(Photo by Dick N6ISY)



Fig 20 – But the sunsets at Sandy Valley can be beautiful.  
(Photo by Dick N6ISY)



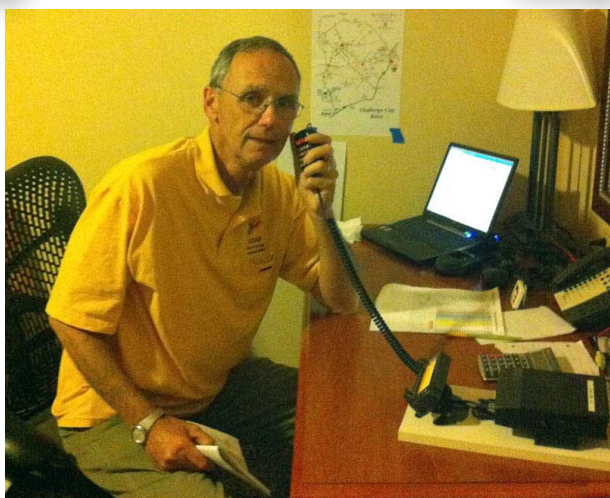


Fig 21 – The COAR Comm Center in Las Vegas was located at the Hilton Gardens Inn. Steve KI6DDE operated this center's radio for one of the three shifts.

(Photo by Robbie KB6CJZ)

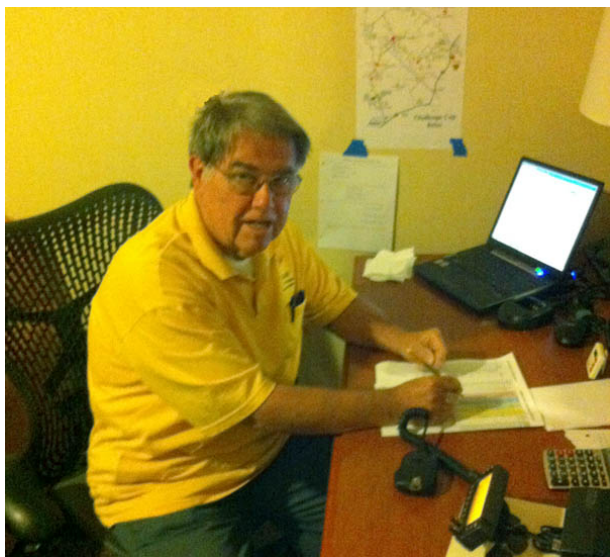


Fig 22 – Robbie KB6CJZ ran another one of the three shifts at the Las Vegas Comm Center.



Fig 23 – Runner officer Jevac gets ready to cross the finish line in the LVH Hotel (formerly Hilton) setting a new record time for the Orange PD team.

(Photo by Bobbie KG6MIF)



Fig 24 – Runners from the Orange PD team along with members of their families gather at the finish line in Las Vegas with Police Chief Robert Gustafson after the race to celebrate the announcement record-breaking running time.

(Photo by Bobbie KG6MIF)



Fig 25 – This group photo shows most of the 31 ham volunteers who helped COAR RACES provide communications for the Orange PD running team. Ten members of OCARC assisted with B2V this year.

(Photo by Ken W6HHC)



# HEY! BOB, AF6C WANTS TO KNOW: WHERE'S YOUR ARTICLE?



Writing for RF is easy and fun. Find your subject. It might be an aspect of ham radio you use that others are not familiar with. Perhaps you are starting on a new project, or rebuilding an old piece of equipment? (I'd hate to think all those treasures you found at our last auction are rusting in your garage.) So let us know what

you are up to with them? Or tell us some interesting thing you've done lately in ham radio.

Have some fun! Get started now. **The next RF deadline will be Sunday May 4th.** Take your time and if you miss the deadline, there's always the next month!







# Western Amateur Radio Association

**Phone Numbers: Home Phone 562 691 7898 Cell Phone 562 544 7373**

**Email: [jac2247@gmail.com](mailto:jac2247@gmail.com) Or [n6vni@arri.net](mailto:n6vni@arri.net)**

**Sponsoring Club: N6ME Western Amateur Radio Association, "WARA"**

**Test site location:**

**La Habra Community Center.**

**101 W. La Habra Blvd.**

**La Habra, Ca. 90631**

**Pre-Registration is requested and preferred. Walk-ins are welcome.**

## 2014 TESTING SESSIONS

**Thursday, Apr 17<sup>th</sup> 2014 6p.m.**

**Thursday, May 15<sup>th</sup> 2014 6p.m.**

**Thursday, Jun 19<sup>th</sup> 2014 6p.m.**

**Saturday Jun 28<sup>th</sup> 2014 1p.m.**  
(Special session to be held at Field Day site)

**Thursday, Jul 17<sup>th</sup> 2014 6p.m.**

**Thursday, Aug 21<sup>st</sup> 2014 6p.m.**

**Thursday, Sep 18<sup>th</sup> 2014 6p.m.**

**Thursday, Oct 16<sup>th</sup> 2014 6p.m.**

**Thursday, Nov 20<sup>th</sup> 2014 6p.m.**

1. A legal photo ID (driver's license, passport) or two other forms of non-photo ID; e.g., birth certificate, social security card, library card, utility bill or other business correspondence with name of the examinee as it appears on the Form 605 and current mailing address.
2. Your Social Security Number (SSN) or FCC-issued Federal Registration Number (FRN).
3. If applicable, the original and a photocopy of your current Amateur Radio license and any Certificates of Successful Completion of Examination (CSCE) you may have from previous exam session. (Photocopies will not be returned.)
4. Two number two pencils with erasers, and a pen.
5. A calculator with memory erased and formulas cleared (no iPhones, iPads, etc.).
6. Test Fee: \$15.00 (cash or check).

**Next On-Foot Transmitter Hunt**

Schabarum Regional Park will be the site of the next southern California on-foot transmitter hunting session on Saturday, April 19, 2014. If you are a beginner, there will be entry-level two-meter fox transmitters set by Joe Moell KØOV. For more experienced radio-orientees, there will be a 5-fox two-meter international-rules course of moderate difficulty, set by Marvin Johnston KE6HTS. One or more optional 80-meter fox transmitters may also be on the air.

If you have them, bring a handi-talkie, receiver, or scanner covering the two-meter band for each person who will be going ARDFing. If you have directional antennas, attenuators, or other on-foot RDF equipment, be sure to bring that too. Make sure that all batteries are fresh. For those with no radio gear, some extra ARDF receiver/antenna sets will be available.

If there is sufficient interest, Marvin Johnston KE6HTS will conduct a clinic for building kits for measuring-tape yagis and for 90 dB offset-type attenuators. An assembled/tested attenuator in a special housing that goes inside the boom of the yagi is also available. If you wish to build kits at this workshop, you must register in advance by sending e-mail to [marvin@west.net](mailto:marvin@west.net), so he will have the kits reserved in your name waiting for you. It takes about an hour to put the kits together with tools and soldering irons that will be provided. If you're not an electronic technician, don't worry because there will be experts to help you.

All transmitter hunting begins at 10 AM. The starting point for the advanced course will be a different part of the park, so if you plan to take on that course, please arrive at the gathering area before 10 AM so we can transport that group to the starting point and do starts at five-minute intervals. Beginners will start from the gathering area and will not need to be transported. If there is an antenna/attenuator

clinic, it will start at 11 AM and there will still be time to hunt the beginner transmitters after that. Courses will close at 3 PM.

For the advanced 2-meter course, orienteering flags and electronic scoring will be used at each transmitter. If you have an "e-stick," be sure to bring it. A few sticks will be available for loan. Be sure to bring anything you'll need while going after those radio foxes, such as munchies, bottled water and sunscreen. For map plotting, bring your own compass, protractor and pencil. Trails are primitive in some areas of the park, so wear sturdy shoes. All ages are welcome, but young children must be accompanied by an adult at all times.

Schabarum Regional Park is on the south side of Colima Road, just east of Azusa Avenue in Hacienda Heights. (Thomas Guide 678-G4) A map for navigation is at [www.homingin.com](http://www.homingin.com). There is a vehicular entry fee for the park, so carpooling would be a good idea. Upon passing through the entry gate, drive south (straight ahead, don't turn right) and continue to the end of the road (about 0.7 mile). Park in the last parking lot near the restrooms. Look for the orange and white orienteering flags and signs. Call KØOV on 146.52 simplex if you have trouble finding the gathering area within the park.

73,  
Joe Moell KØOV



**Working DX - 2014 Style  
by L. "Wrapper" Rapp****From my Blog:**

**1/7/14** I have to get my ham license! My extremely wealthy grandfather was a ham, and it always disappointed him that I didn't follow in his footsteps. (You may have read some of his articles in QST in the 50s and 60s?) Grandpa passed away recently, and to my disappointment, my inheritance from him carries the stipulation that I get a ham license and qualify for a DXCC certificate before I can inherit. On top of that, I have a limited time to achieve this goal or the inheritance will revert to various charities. As a nice touch, I am allowed to use his account at the local ham store to purchase study materials and, once I have a license in hand, radio equipment.

**1/7/14 (second post)** For those who don't know me, I'm a computer and electronics guru. Working with RF and software defined radio (SDR) is what I do professionally; I hold numerous patents, both in hardware and software in that field. I know the theory will not hold me back, and the rules and regulations I can easily learn, but oh the code - learning the code :-( Maybe that is why I never had any interest in ham radio?

**1/9/14** Yesterday I got a text telling me code was no longer a requirement for a ham license. I didn't believe it, but this morning I went down to the local ham store to pick up a study guide and they confirmed the rumor. Yea! Maybe ham radio isn't that bad.

**1/11/14** Read the Extra Class license book. Memorized the rules and regulations, ham band frequencies, et al. There is nothing new in the electronic theory covered in the book. I did send off a short email to publisher pointing out some errors and typos. Now to find out where to take the test.

**1/15/14** Took my test from a guy named George. He runs a really efficient VE session. I was out of there in just a few minutes, my test all graded. I aced it, of course! All the others taking the test were still hard at it. George and the other volunteer examiners sure gave me a funny look as I went out the door.

**1/16/14** Went to the ham store today. Didn't see any equipment I liked. Did order the biggest tower they had available, and antennas that cover 80 through 6 meters. Lots of cable too and a heavy rotator. When I got home I did some designing and placed large orders at various industrial electronics wholesalers.

**1/17/14** I have four of the best technicians at my company putting together my designs. I'm off to the Bahamas for a vacation while the techs solder away. They can reach me on my laptop if the need arises. I'll be outlining the firmware for the boxes, as well as the computer software, and working on my tan.

**1/20/14** Techs are reporting good progress. The control box that came with the rotator now has no controls :-). It just has a USB port and the eight-terminal connector for the cable to the rotator; oh - and the AC line cord too. Most of the antennas have arrived. The tower base has been poured and the cement is drying. The tower should arrive soon. My tan is really coming along.

**1/24/14** Flew home today; my tan is exquisite. The tower arrived and the crane comes tomorrow to put everything up. One of the techs has finished the antenna switching box I designed. It mounts atop the tower. I'll be able to select any three of the eight HF antennas. Six-meters won't need a feed line - trust me!

**1/28/14** The tower and antennas are up. I spent all day watching people erect it. So did most of the neighbors; but they didn't look as happy as I did. Forgot to design a controller for the tower raising motor. I'll do that in the morning and take the plans to another tech.



**1/30/14** Wow, things are coming together. I was shown two finished boxes. Both are painted black; both have a two-color LED on the front, both have an 'N' connector and three USB ports on the back, as well as a threaded stud for grounding. The only difference between them is one has a heavier power cord with a 240V AC plug on the end; the other has a regular 120V plug. Oh, and one has a white R on the front for 'radio' and the other has a white A for 'amplifier' in the same place. When the techs are finished I'll have three of each. There is one other box under construction plus some controllers. I guess it's time to focus more on the firmware and software.

**2/10/14** The boxes are all done and the firmware is loaded in them. The six meter SDR is finished and mounted on the tower. No feed line needed, just a power cord and USB cable - see I told you. The software is coming along slower than I expected. I guess that's my fault, I've been dating one of the programmers and keeping her from her work. Tonight I'm taking her to dinner, then no more dates till I'm pursuing my DXCC.

**2/13/14** All the boxes are installed, and everything seems to be working. There are still a few glitches in the software, but I personally am ironing them out. Tomorrow is the ARRL CW DX contest. I'm gonna work that contest!

**2/14/14** Happy Valentine's Day! The contest starts at 5 PM local time; that's in about an hour. I'm sitting in front of my computer display; it's running Linux. Since this is going to be a trial run I'll be conservative. I've set the pull-down menu to select ARRL CW DX Contest, I've checked the box in front of only one radio icon, leaving the other two unchecked. I've unchecked the box for the Amplifier icon associated with that radio, I'll run low power this contest. Let's see, I'll select just two bands for this contest - how about 40M and 20M. That should make for a good trial. Wow, I'm shaking, but here goes... I just clicked on "GO". The screen shows I have about 48 minutes be-

fore the contest begins. The computer has checked propagation on the web and chosen to start on 20 meters. What? An error message? It's telling me to enter my call. Drat, I have that written down around here somewhere.

**2/14/14 (Second entry)** I found the call and entered it just a few minutes before the contest is to start. I had hoped to be here for the start, but finding my call sign delayed me and I have to take a shower before I sit down to play ham radio. Maybe I can operate for a while before I have to pick up my programmer lady for dinner - hey, it's Valentine's Day, remember?

**2/15/14** It's three in the morning. Dinner was good; we decided to take a little drive down the coast. We should be back in time for me to get in some operating Saturday afternoon.

**2/16/14** Ran into some old friends Saturday; we decided to meet for breakfast this morning. I'll be back to operate before the contest ends - I hope?

**2/16/14 (Second entry)** Got home; too tired to operate so I took a short nap. When I awoke there was just a few minutes left in the contest. I was determined to operate. I sat down at the computer and moved the mouse. The computer awoke to a lot of *dit'n* and *dah'n*; what's with that? I hit mute and looked at the screen. Wow, I'm working a 9M2. Hey, I don't believe it, he is my contact number 2,236. Wait - my DXCC count is at 99! Drat, the contest ended after six more contacts, but no new countries. Well, that wasn't bad for a trial contest! I'm still tired and hungry. Enough hamming for today.

**2/17/14** It's Monday; thought I'd get a day of hamming in. I fired up the computer at 6 AM and set it to normal SSB operation. I chose a different radio and decided to try its amplifier and 15 and 10 meters. I then clicked on GO. A window popped up to inform me that I already had 26 countries confirmed on LoTW. The computer was still on mute. I turned mute off only to hear my own voice giving a signal report. I got a 5-by-9 back and heard the guy say

he was in Texas. Suddenly there was a trumpet sound from the computer and the DXCC counter flipped to 100 worked, (a nice touch by my programmer girlfriend, I bet!) Yea! I made it. But in late February is the ARRL DX Phone Contest. I'm gonna work it 'no holds barred'!

**3/3/14** - Drat, I missed the ARRL DX Phone Contest. Luckily the computer sleeping but it woke-up. Sadly, I still had it set to just one transmitter and amplifier. On top of that, the rotator control was disconnected and all the beams were pointed north :(A team I hired has been adding differential rotators so I can point the beams independently). Tomorrow I'm seeing if I can patent that idea! Anyway, the screen shows I've worked another 133 countries.

**3/10/14** - Thought I'd do some hamming today. there is a rag-chew box on the computer I think I'll try it.... I don't know what that button does, but one contact took forever. I'll have to remember not use it again. Who added that anyway. I've made a note to find out.

**3/28/14** The CQ WW-PFX Phone Contest starts in just an hour. All three radios are set to go as are their amplifiers. The new rotators are tested and working. I've made a few changes to the software and reworked my voice synthesis software. Boy, does it ever sound like me! I've even fit my voice characteristics to the Fletcher Munson curve! All is set, I've clicked on 'GO'.

**3/31/14** The contest is over. I checked in on my ham operation at least a dozen times since 5 PM Saturday. Wow, I bet that makes me a real ham! The gear is working well. I made over 18,000 contacts and my DXCC worked count is approaching 300 I also have worked 5-band DXCC. LoTW has exceeded 100 countries confirmed and I've applied for DXCC. Tomorrow I go to the lawyer!

**4/1/14** What the h...? the lawyer congratulated me on DXCC. But he says I also need to get my 5-band WAS award before he can give me my inheritance. Is he kidding? Hey, it is April first!

**To be continued... (Next April - maybe).**

---

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

***First Class Mail***  
***Time Dated Material.***  
***Please Expedite!***

<http://www.w6ze.org>