

RF



ORANGE COUNTY AMATEUR RADIO CLUB, INC.

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

April 2012

The Prez Sez.....

by Paul W6GMU



Howdy, All!

[Editor's Note – notice how the "Prez" looks better in the early days of April...around April Fools' Day?]

April is always a welcome month, as the WX improves and allows more outdoor activities, such as biking and playing radio from exotic/different places. There's also Field Day rushing up, and Dee N8UZE is doing her very best to shepherd our efforts to ensure that our primary club

event/function will be very enjoyable for all participants. As always, the more OCARC members that participate, the better all will run and I believe we are still short a few band captains, so please consider (or reconsider) serving as such or helping in any way you're able.

Our General Meeting will be held one week early, on April 13th, when we will feature our own Dee Flint, N8UZE, speaking on the Logbook of the World. This feature could help you automate your QSLing and save you postage. As I find this fascinating, I can't wait to hear more!

Have fun, be well and see you at the Meeting,

73 de Paul W6GMU
The "Prez"



Next Meeting

Our speaker for the April meeting will be Dee N8ZE talking on **QSLing**:

"The Fine Art of QSLing..."
&
"LOTW – The Basics"

Learn about LOTW (Logbook Of The World) and learn various tips and tricks to achieve a return on your QSL request.

The next general meeting will be on:

Friday, April 13th
@ 7:00 PM

As usual, we will be meeting in the east Red Cross Building, Room 208. See you there!

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**ORANGE COUNTY
AMATEUR RADIO CLUB**
www.W6ZE.org



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Monthly Events:

General Meeting:

Third Friday of the month
at 7:00 PM
American Red Cross
601 N. Golden Circle Dr.
(Near Tustin Ave. & 4th St.)
Santa Ana, CA

Club Breakfast:

Second Saturday of every
month at 8:00 AM
Jagerhaus Restaurant
2525 E. Ball Road
(Ball exit off 57-Freeway)
Anaheim, CA

Club Nets (Listen for W6ZE):

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

7.086 ± MHz CW **OCWN**
Sun- 9:00 AM – 10 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 Jan thru Dec and 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.

COAR RACES plans Communication Support for the Orange Police Running Team for the 2012 Baker-2-Vegas Race

Each spring, 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 Hilton Hotel in Las Vegas. The B2V race is broken into 20 "legs" or stages. This year, more than 260 different law enforcement teams will participate. 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, the B2V event is scheduled to begin on Saturday, April 21, with runners reaching the finish line on Sunday, April 22.

The photo below shows many of the volunteers at a COAR RACES planning meeting for the B2V race communications that was held in March. There are seven OCARC members in this photo. The COAR Chief Radio Officer is OCARC member Dave KG6RWU (standing to the right of Bob AF6C). The OPD coordinator for the COAR RACES organization is Sgt. Mike Monjaraz standing at the extreme right in the photo.



Heathkit of the Month #39:
by Bob Eckweiler, AF6C

F-2587K/M
Candlesticks

Introduction:

After the April Fool's fiasco of two years ago, probably brought on by listening to too many Johnny Horton albums, I felt the April *Heathkit of the Month* should be based on a real, but unusual Heath product. Thus last year the GU-1810 Hydraulic Log Splitter was selected. At that time I challenged readers to name other Heathkits that were powered by gasoline instead of electricity. The reply was overwhelming - overwhelmingly lacking. Thus, this year I thought I'd change tack once again on this April cruise. Now, as I see it, this April's kit could tie in with last year's kit in a sense.

Hams are known throughout this great country as ready to jump in and provide communications in times of disaster. In recent years this skill, unfortunately, is being tested more often than we would all like. So this April's kit relates to supporting emergencies, whether it be a power blackout or hurricane. This month we'll discuss a mechanical support for emergency lighting available from Heathkit. As such, it could be essential for operating during the night hours.

In the early eighties, with the competition of inexpensive Asian electronics eating into Heathkit's profit margin, Heath decided to branch out into a new form of kit building. Instead of components, wire and solder, these kits utilized wood, stains and glue. Yes, Heathkit began Heath Craft Woodworks. The kits featured in their 1981 catalog 402B (Figure 2) includes great wooden items like an exquisite rolltop banker's desk kit (\$995 and 405 lbs. freight shipping), an octagonal dining table (\$495 and 131 lbs. freight shipping), matching chairs for the table (\$129.95 per side chair and



**Fig. 1: Heath Craft Woodworks F2587M
 Mahogany Candlesticks**

\$149.95 per arm chair); a classic mahogany Butler table (\$250) and many other items such as an oak hall mirror (\$129.95), a mahogany Queen Anne plant stand (\$69.95); an oak book rest (\$69.95) and...

The Heath Craft Woodworks Candlesticks:
 Heath offered in kit form a pair of candlesticks for \$24.95. This was the "practical introduc-



**Fig. 2: 1981 Heath Craft Catalog #402B
Showing the Rolltop Bankers Desk**

tion" kit for the Heath Craft Woodworks. The kit came in two models, the F-2587K in oak, (Figure 1) and the F2587M in mahogany.

These candlesticks are patterned after a classic early American design, and you can almost see

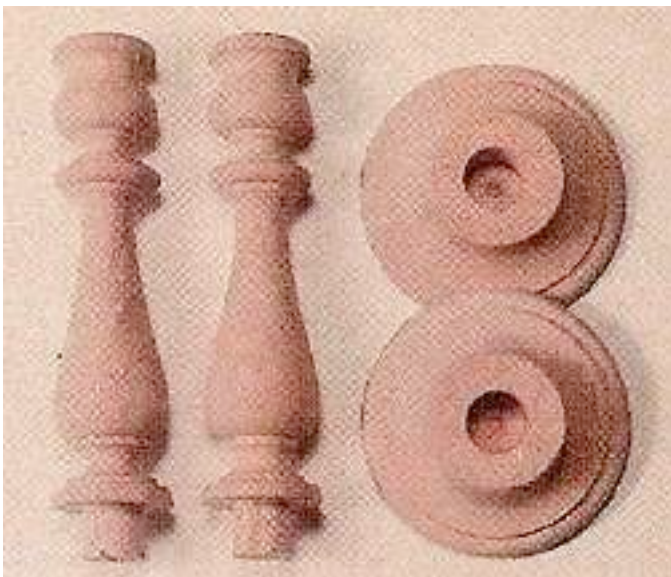


Fig. 3: Rough Sanded Candlestick Parts

one being used to murder Colonel Mustard in the conservatory! If this paragraph leaves you baffled, let's face it, you haven't a Clue.

The pair of candlesticks measure 8-1/8" tall with 4" diameter bases. They are designed to accept standard sized tapered candles, available at Ye Olde chandler shops everywhere. (Has the sizing of candles gone metric yet?)

Heath Mahogany F-2587M Candlesticks:

This pair of candlesticks came as four pieces of select solid mahogany - two pre-cut, rough sanded spindles and bases (Figure 3). The kit also included glue, sandpaper, specially formulated mahogany paste stain and paste varnish.

Heath Oak F-2587K Candlesticks:

These candlesticks are identical to the mahogany ones except they are made from solid oak. Two types of stain were included, golden oak and walnut. You could try both on the underside of the bases and see which you prefer.

Heath Craft Woodworks Kits:

The Heath Craft Woodworking catalogs were imbedded in the regular Heathkit catalogs in the early eighties. The one I'm referencing for this article is in the Christmas 1981 mail order catalog #855; it is 16 pages in length. Reading the catalog, with a lot of detail on the products and what is needed to assemble them, one gets the feeling that, like electronic Heathkits, the instruction book is going to be easy to follow with step-by-step clear instructions. Even the stains and varnish show a level of detail that makes finishing easy. These products are not liquid, but a paste that is rubbed on. Accidental spills or messes are all but eliminated.

With the exception of the introductory candlestick kits, the finishing kits (Figure 4) were sold separately. Four stains were offered: Natural, Golden Oak, Mahogany and Walnut as shown in figure 5. The Mahogany finishing kit came only in medium size; all other kits came in either medium or large size. Each kit came with instructions. The finishing kits cost \$10.95 for

medium and \$17.95 for large, except for the natural finish kits which were \$5.95 and \$9.95. The finish was applied using a soft cloth so no brushes were needed. With each kit Heath recommended which finishing kit size to purchase. Large items like the rolltop desk and the octagonal dining table take the large finishing kits; while smaller items like the chairs, mahogany butler table and book rest take the medium finishing kits.

A minimum of basic tools were needed to build these kits. All rough sanding was done, and assemblies requiring alignment jigs came pre-assembled. Special tools, like drill bits were supplied when needed.

Heath did offer five general tools to assist builders - three under \$5, and all under \$10. They were a one-inch nylon web clamp, an adjustable two-piece pipe clamp, a package of four rubber pipe clamp pads, a hard rubber sanding pad and safety goggles.

Heath Craft Glass and Brass Tables:

Besides the wooden kits Heath offered five models of tables with glass tops and brass under structure. These tables boast 3/4" plate glass tops with custom ground in a curvilinear ogee shape. The five tables, a 26" x 52" race-track oval table, a 38" square cocktail table, a 24" x 48" rectangular table, a 16" x 48" console table, and a 22" x 26" lamp table range in price from \$395 to \$595 in kit form. All but the lamp



Fig. 4: Heath Craft Finishing Kit



Fig. 5: Offered Finishes

table required shipping by motor freight. Heath was offering a \$100 discount on these tables in the 402B catalog.

Except for the candlesticks, these Heath Craft kits were also available fully built. The savings by building and finishing the kits varied from around 40% for the Brass and Glass tables to 67% for the larger wooden kits.

So if you ever find a Heath Craft candlestick on eBay, add some so elegance to your emergency supplies. Don't forget the 'strike anywhere' waterproof matches as well as some fancy tapered candles.

Next month we'll take a look at the mobile power supplies Heathkit made for their tube radios.

73, from AF6C



This article is Copyright 2012 R. Eckweiler and The OCARC Inc.

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

Thanks - AF6C

OCARC Field Day Planning

by Dee N8UZE

Field Day is a major event in the amateur radio community. Although it may not be possible to commit for the entire event, even a half an hour of your help will be appreciated and will be very worthwhile. So please sign up at the upcoming meetings. Our category and the number and type of antenna installations will depend on how many volunteer to help. We need more people to help with setup and teardown. Additional operators are needed so that no one gets too worn out. The following list is a summary of the current status.

- **Band Captains** (We also would like commitments for additional bands - 80, 10, Bands can be combined such as an 80/10 station)
 - 20 meter CW – Paul, W6GMU
 - 20 meter PH – Ken, W6HHC and Bob, AF6C
 - 40/15 meter All – Tim, K6GEP and Doug, W6FKX
 - VHF/UHF – Robbie, KB6CJZ
 - GOTA – Brett, W6BAC – tentative
- **Bonus Point Volunteers**
 - Media Publicity – Tim, K6GEP
 - W1AW message – Jeff, W6UX
 - Natural Power – Nicolas, AF6CF
 - Visit by elected official – Jeff, W6UX will look into
 - Visit by served agency – Ken, W6HHC will look into
 - Educational Activity – Bob, AF6C
- **Other volunteers** (we need many more volunteers in these areas)
 - Operators – 1
 - Setup – 2
 - Teardown – 1



TechTalk99

DATV – a High-gain “Panel” Antenna for 1.2 GHz

by Ken Konechy W6HHC

(Revised 2012-07-19)

[Note – I received good feedback from Kent Britain WA5VJB pointing out the impact of insulation on the velocity factor of wire, caution about “beam tilt”, and from Paul Melbourne G8GML elaborating on his early involvement in the “panel” antenna design and other details. These additions are certainly worthy of a revised edition of the article.]

I am always interested in discovering antenna designs that can be easily built by hams. While scanning the British Amateur Television Club (BATC) web site for digital television forums, I noticed the posting by Keith GØKTD. Keith had posted photos of his “lantern” antenna for 1.2 GHz that was constructed of four “panel” antennas. The panel antenna turns out to have a good gain, low cost, and the design can be made into several variations.

Basic Panel Antenna

Back in 1997, John G8MNY published a short article in the BATC CQ-TV magazine that introduced the ATV readers to a panel antenna made with loops of heavy wire positioned above a reflector panel. John G8MNY’s article described using four loops of wire. A short time later, in 1998,

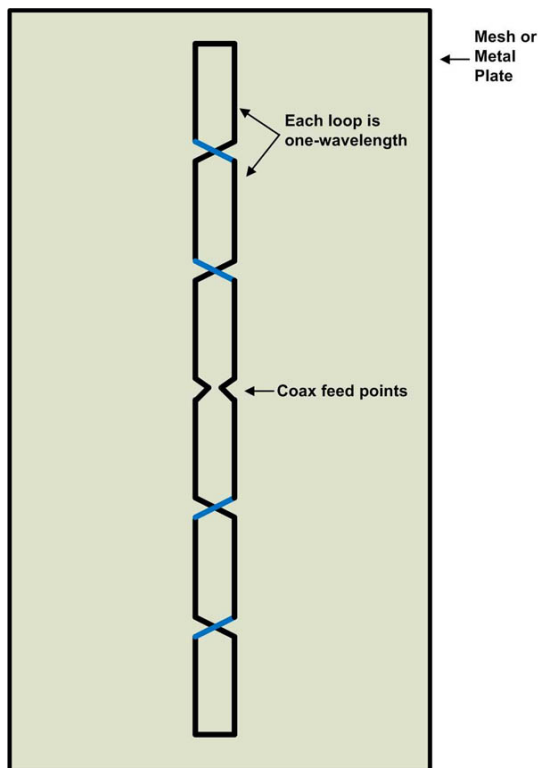


Figure 1 – Six Loops of wire are positioned over a Mesh Reflector for basic Panel Antenna

Paul G8GML published his work in BATC CQ-TV magazine where he had over several years evolved the panel design to use six loops of wire for better gain and more convenient impedance. **Fig 1** shows the modern basic construction concept for the panel antenna. The design of **Fig 1** can achieve a theoretical gain of about 14 dBd. Each loop is one-full wavelength (electrically) and can be thought of as two half-wave dipole antennas with 3 dBd of gain. Two loops double the number dipoles to provide 6 dBd of gain. Four loops provide 9 dBd. Six loops of wire can produce a gain of about 11 dBd. Finally, adding a metal reflector spaced behind the loop array will add another 3 dB and provide a total theoretical gain of 14 dBd!! [NOTE G8GML’s earlier CQ-TV article stated field measured gain of 6 loops with the reflector at 16 dBd. Paul G8GML explained that performing field tests includes the ground’s distortion of the radiation pattern and that the higher value of gain reported is the result of “ground gain”...but is a good method to compare antennas at a specific location. “Your mileage may vary!”]

One of the simplicities of this antenna occurred when Paul G8GML evolved to the six-loop design.....the resulting feed impedance for the coax is 50 ohms for **Fig 1**. How simple can you get? Most articles on this design recommend a 1:1 balun to feed the antenna.

The wire size usually chosen is 2 mm diameter copper. Stranded copper wire can be used if you leave the insulation on. Most construction articles show insulated solid wire being used. However Kent WA5VJB, who is the Antenna Editor for CQ magazine, pointed out that the velocity factor of bare wire is different from insulated wire. So insulated wire needs to be about 1.5% shorter. The dimensions of the loop are 88 mm long by 28 mm wide for each of the loops. The spacing of the loops should be about 30 mm above the mesh (screening) reflector panel. Most hams construct the reflector to be about 8 inches wide by 20 inches long using garden screening with about 0.5 inch squares.

Kent WA5VJB also points out that with the loop array positioned vertically (as shown in **Fig 1**) the electrical field radiation is polarized horizontally. Finally, Kent WA5VJB points out that “The main problem is beam tilt...it takes a lot of care to build one so that the main lobe of the beam really is at the horizon”.

How About More Gain?

The beauty of this antenna is that you can double the number of arrays and easily use two sets of six-loops over a lightly larger reflector panel as shown in **Fig 2**.

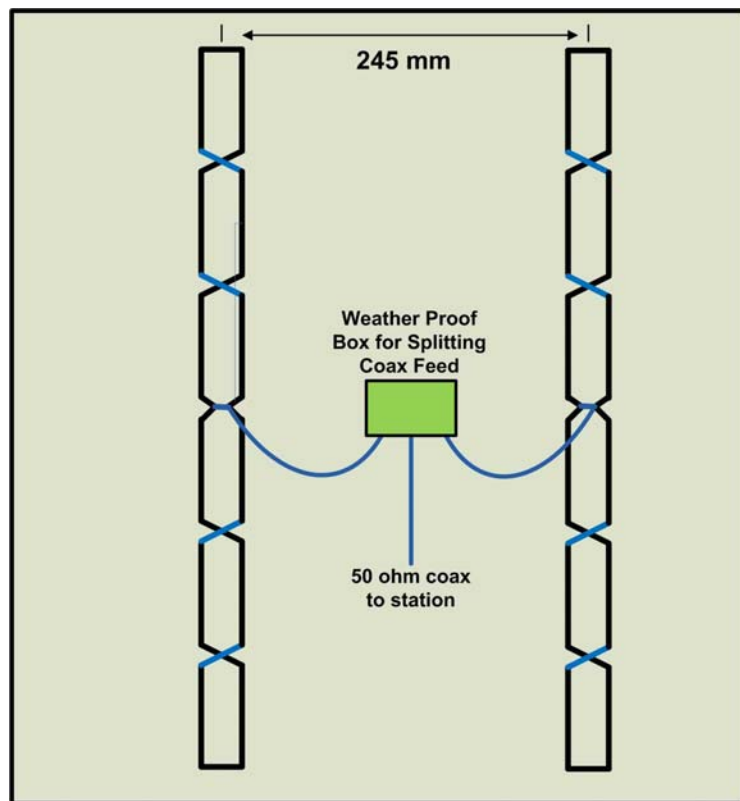


Figure 2 – Two sets of Six-Loop Arrays provide 3 dB More Gain for a Total of 17 dBd

The coax splitter feeds the two arrays in phase. Special note – the two pieces of coax from the coax-splitter need to be chosen carefully to “transform” each of the 50 ohm antenna loads to look like 100 ohms at the splitter end. Then two 100 ohm loads when connected in parallel look like 50 ohms again to the feed coax. This “transformation” of impedance in the coax is usually accomplished by carefully choosing the length of the “splitter coax” section of coax. The ARRL Antenna Handbook (Chapter 26) calls these sections of coax “quarter-wave transformers”. To get the 50 ohm antenna to look like 100 ohms,

$$Z_{\text{transformer}} = (50 \times 100)^{1/2} = 70.7 \text{ ohms}$$

use quarter-wave or 3/4-wave sections of 70 ohm coax.

It is possible to continue to increase the number of the six-loop arrays to obtain even more gain.

| Number of 6-Loop arrays | Antenna Gain |
|-------------------------|--------------|
| 1 | 14 dBd |
| 2 | 17 dBd |
| 4 | 20 dBd |
| 8 | 23 dBd |

Remember that all of the six-loop arrays need to be fed in-phase. The antenna gain will be a very sharp (narrow) beam that is perpendicular from the front of the panel.

The Omni-Directional Lantern Configuration

Keith GØKTD recently posted about his “Lantern” antenna that is constructed by bolting four panels together, each aimed at 90 degrees from each other (see **Fig 3**).

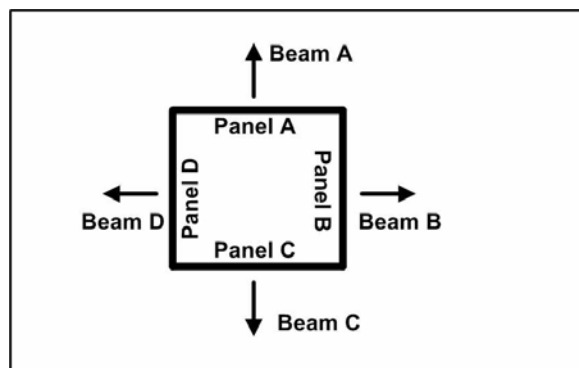


Figure 3 – Looking down onto the top of the four panels used for the Lantern Antenna

By sending the beams out in four different directions, the test results by GØKTD, GB3NQ and G3MCD indicate an almost circular gain pattern is radiated. The gain in any direction is the gain of the facing panel.

Tricks of the Trade

One way to adjust the resonance and SWR on the panel antenna is to prepare a “trombone” adjuster for the feed line connection to the 6-loop array. The tubes used for the trombone feed sections are made from 2.5mm ID M83 brass tubes as shown in **Fig 4**. The solid wires of the loop-arrays can be flattened slightly to create a snug fit into or out of the hollow tubes.



Figure 4 – A Trombone coax feed section that allows the wire in loops to slide in or out for adjustment (Courtesy of Maurice Richards, G3WKF and BATC)

Conclusion

This looks like a neat 1.2 GHz antenna that can be built as a beam or as an omni!! This appears to be a straight-forward construction project. The referenced articles below provide additional construction details for interested hams. The reader can make the array as small or as large as desired.

Paul G8GML sent along these photos in **Figure 5** and **Fig 6** of the Panel Antenna construction by Simon Laszlo HA5IW. The gain is "in the region of 30 dBd".



Fig 5 – Large 6-loop panel array construction by HA5IW
(Courtesy of Paul G8GML)



Figure 6 – The Large 6-loop panel array by HA5IW mounted up on the Tower.
(Courtesy of Paul G8GML)

I have added the hi-gain Panel Antenna to my list for DATV projects.

Interesting Links

- British ATV Club – Digital-ATV and DigiLite Forums – see www.BATC.org.UK/forum/
- British ATV Club – select from about 25 streaming repeaters – see www.BATC.TV/
- BATC CQ-TV Magazine Archive – see www.BATC.org.uk/cq-tv/archive/index.html
- John G8MNY article "Flat Plate Aerial" in BATC CQ-TV magazine, 1997 issue 180
- Paul G8GML and Ian G3KKD article "23 cm Panel Antennas" in CQ-TV-182 magazine, 1998
- Ian G3KKD and Paul G8GML "Correction to Drawing 3" in CQ-TV-197 magazine, 2002
- Paul G8GML article "UHF Panel Antenna", 2004
– see <http://G8GML.zxq.net/page20.html>
- Maurice G3WKF article on "Update on Panel Antennas" CQ-TV-234 magazine, 2011
- Orange County ARC newsletter entire series of DATV articles – see www.W6ZE.org/DATV/
- Yahoo Group for Digital ATV - see groups.yahoo.com/group/DigitalATV/

OCARC Soldering Class

by Bob AF6C

On an overcast and chilly Saturday morning in March, a small group of students gathered on the back patio of W6HHC's home for a soldering class. Solder Sergeant AF6C commanded "Present Irons!" and the class began. Iron tinning and maintenance, wire tinning and soldering techniques were discussed and demonstrated. Then each student began hands-on soldering on the practice pads on the circuit board kit. After numerous practice exercises, the class began installing components on the board.

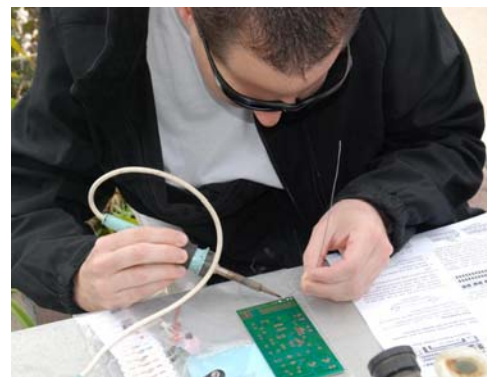
For homework, the students will be continuing some practice exercises and completing installation of components. At the next class we will discuss how the assembly went and then inspect and fire up the boards. Students attending this class are Corey - KE6YHX, Jeff - W6UX, and Ira - AE6IX.



Professor Eckweiler (aka AF6C) standing, provided instructions to the class students L-R Jeff W6UX, Ira AE6IX, and Corey KE6YHX



Corey KE6YHX practices a few soldering joints on the "soldering kits" bought by the class



Jeff W6UX tries his hand at a few test solder joints on the PCB (Printed Circuit Board)

Ham Radio Video "PodCasts"

By Ken W6HHC

I always enjoy listening to audio "PodCasts" while working out at the gym...it gives my mind something to do at the gym...and I typically learn something new. My favorite Ham Radio audio PodCast is "solder smoke" at www.SolderSmoke.com that is turned out by Bill Meara N2CQR and MØHBR. Leo Laporte also puts out a great audio podcast called THIS WEEK IN TECH (or TWIT) that is computer-oriented and NOT based on Ham Radio. I guess the official "word" used for these neat audio or video PodCast's is morphing into "NetCasts". (I suspect that some people are afraid of being sued by Apple who makes iPods??)

Here are two Video PodCasts for Ham Radio that I enjoy watching....

Ham Radio Now is produced by Gary Pearce KN4AQ of "ARVN: Amateur Radio/Video News" fame. The PodCast (or NetCast) can be found at **HamRadioNow.TV** or **ARVideoNews.com/hrn/**

Ham Nation with host Bob Heil K9EID, is produced by the Leo Laporte syndication of NetCasts. The NetCast can be found at **TWIT.tv/show/ham-nation/**

OCARC GENERAL MEETING MINUTES 2012-03-16

The OCARC February General Meeting was held at the Red Cross complex in Santa Ana on Friday evening, March 16th, 2012. There were a total of 32 members and visitors present. Six club officers were present for a quorum....only Doug W6FKX, Kristin K6PEQ, and John W6JOR were absent.

The club President Paul W6GMU introduced our speaker, Arnie Shatz N6UC, who spoke on the "2011 T32C DXpedition to Christmas Island".



Arnie N6HC presented an outstanding talk to OCARC about the very successful 2011 T32C DXpedition



Arnie N6HC is shown operating the 20M CW Station

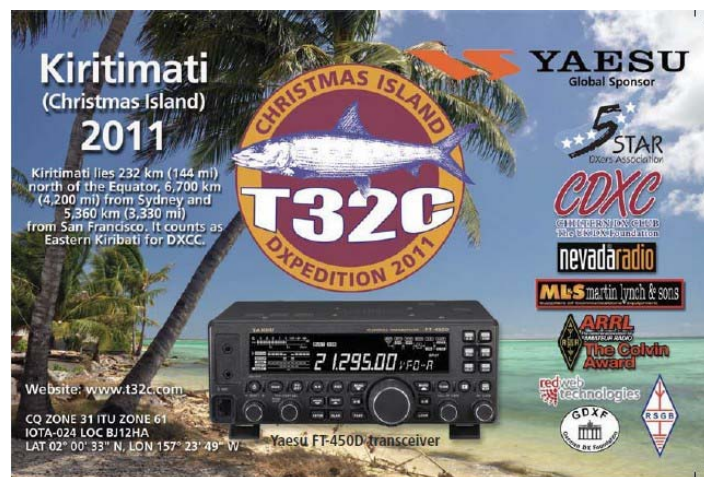
Kiritimati is the largest lagoon in the world. In the center of the Pacific Ocean, this very successful 2011 DXpedition produced a total of 213,000 QSOs in 24 days of operating. This effort was organized by the 5 Star DXers Association (FSDXA).



Arnie N6HC described this scene as "Porcupine Beach". Each band above 40M was using a pair of phased two-Dipole verticals



Group Photo of the 38-member Team that operated T32C



QSL Card sent out from the 2011 T32C DXpedition

OLD BUSINESS

- VP Position** – Paul W6GMU announced that the Board had accepted the resignation of VP Carl N8AE (due to time conflicts with his new job). There were no nominations from the floor for candidates to elect a new VP. OCARC agreed to move the election to April.

Minutes Cont'd next page --

OLD Business – cont'd

- **2012 Field Day** – Dee N8UZE, FD chair, announced that she was circulating a sign-up sheet for FD operators and also people willing to focus on the various FD bonus point efforts. [See FD plans on Pg 7 of this issue.]
- **2013 Field Day** – It was noted that the year 2013 would mark the 80th anniversary of the OCARC. There was discussion that OCARC should organize a “really big” Field Day effort in celebration.
- **April Meeting** – The OCARC members were reminded that the date for the April meeting had been moved to one-week early, April 13, due conflicts with two major ham events: Visalia DX Conference [see next column on right] and the Baker-2-Vegas law enforcement relay race [see page 3 for more details].

NEW BUSINESS

- **April Opportunity Prizes** – Kenan KR6J offered to take over duties for the Activities chair in April and will bring the opportunity prizes to the meeting and will conduct the drawings for prizes.

Respectfully sub mitted by:
Ken Konechy W6HHC, Secretary

**63rd Annual Internat'l DX Convention**

Sponsored by the Southern California DX Club

April 20, 21, 22, 2012

**Holiday Inn Hotel & Conference Center
Visalia**

The International DX Convention is the world's foremost DX convention. If you are a DXer or interested in any aspect of ham radio you need to be at Visalia. Top DX operators from around the world will be there. Meet the big guns from the US, Asia, Europe, Africa and Oceania. Meet the people on the other side of the mic or key. Shake hands with the person you have had that sked with for the past 10 years. Renew friendships. Don't forget your YL! We have planned another great Saturday Tour. Bring the kids, there is even a prize for the youngest ham at the convention.

Top DXpeditioners from every continent tell you how they did it. Learn the secrets for big signals on the top band, how to have fun and adventures chasing IOTA, contest forum, DX forum, seminars for everyone from the seasoned pro to the beginning DXer. Bring your latest QSL card arrivals for checking. Join the CW Pile Up Competition. Attend the traditional Saturday night banquet where great friends and good food are met with lively presentations. The Sunday breakfast buffet has ample selection and variety. Enjoy more presentations and another T.V. parody, by the San Diego DX Club; this year there is a new twist! Visit the manufacturers' midway where you can talk to the people who design and use the latest and best equipment. K6V will be on the air from the Hotel. Try the latest rig with the newest antenna. Don't forget the Visalia raffle prizes which top even the famed Dayton Hamvention!

Check out more details on the website

www.dxconvention.org

**APRIL'S PUZZLER**

This month's puzzler was suggested by Fried Heyn - WA6WZO:

SEND + MORE = MONEY

This is called an "alphametic puzzle". Each letter represents a unique digit in the following equation. Your task is to find the digits that the letters represent and that fit the simple addition problem. Here is the equation:

$$\begin{array}{r} \text{SEND} \\ + \text{MORE} \\ \hline \text{MONEY} \end{array}$$

As usual: Send your answer, a question asking for clarification, or a request for a hint to:

puzzler@w6ze.org

We will publish the names of those providing a correct answer.

**Answer to March's Puzzler:**

The puzzle:

You wander into the back pool room of your local watering hole and notice a crowd around a man standing behind a small card table. He invites you to step up. As you do, you notice three identical walnut shells on the table along with a pea.

Oh, the old shell game you think. The man silently places one of the shells over the pea, and then he begins moving the shells around extremely fast on the table. You know you can't follow his action due to his tremendous skill with the shells. He finally stops and places the shells in a row.

"Pick the one with the pea," he requests. Since you haven't put any money on the table you point to a shell.

Instead of turning over that shell, he then turns over one of the shells you hadn't picked showing it doesn't contain the pea, and bets you even money that the pea is not under shell you chose. When you hesitate, he even offers to let you change your choice and pick the other still covered shell.

What should you do?

- a) Walk away. (**Always smart for a non-gambler!**)
- b) Stick with the shell you chose.
- c) **Change your selection to the other shell.**
- d) It doesn't matter whether you change or not, the odds are the same.

What are the odds of winning if you walk away?

- a) **0 in 6**
- b) 1 in 6
- c) 1 in 3
- d) 1 in 2
- e) 2 in 3
- f) 5 in 6
- g) 1 in 1

What are the odds of winning if you stick with your choice?

- a) 0 in 6
- b) 1 in 6
- c) **1 in 3**
- d) 1 in 2
- e) 2 in 3
- f) 5 in 6
- g) 1 in 1

What are the odds of winning if you change your choice?

- a) 0 in 6
- b) 1 in 6
- c) 1 in 3
- d) 1 in 2
- e) **2 in 3**
- f) 5 in 6
- g) 1 in 1

The correct answers are highlighted above.

To solve this puzzle you must realize one thing that is very important. The man, let's call him the gamester, was described as having tremendous skill. Thus it is quite right to assume that he knows where the pea is at all times. This is the only way he can be sure of always turning over an empty shell.

When you point to a shell your odds of picking the correct shell is one in three (1 : 3). Which means that the odds of the pea being in one of the two shells you didn't choose is two in three (2 : 3). This is represented in figure 1. Notice the vertical line; it divides the odds between your pick and the unselected shells.

Now the gamester turns over one of the two shells you hadn't picked. Here is the important point: Since the gamester knows where the pea is, and at least one of the unselected shells is always one not containing the pea, he always turns over an empty shell. Since it is a 100% certainty that he is going to turn over an empty shell, **there is no change in the odds** when

he does reveal the empty shell (Figure 2).

The odds of the pea being to the right of the line remains two in three ($2 : 3$) but now there is only one unrevealed shell on that side. Thus, if you change your pick, your odds increase from $1 : 3$ to $2 : 3$. In this case you should always make the change to increase your odds. But remember, you will still lose on the average one time in three!

The natural instinct is to assume that the odds, after the gamester reveals one of the unselected shells, drops to $1 : 2$. This is the case only if the gamester **does not know** where the pea is. In that case though, he will reveal the pea once every three games on average and thus his action will affect the odds of the other two shells.

We had only one winner this month, Fried - WA6WZO. Congratulations to Fried!

However, a special thank you and credit goes out to Ken - W6HHC who played the devil's advocate and got Fried and me discussing the puzzle and odds in general with him. That discussion did a lot to help me feel I could give a more clarified answer to the puzzle. We also discussed the how odds can differ between people who have a different frame of reference.

An analogy to this month's puzzler is: There are two boxes, one on your right that contains one red ball and 99 blue balls and one on your left that is empty. Blindfolded, you pick out one ball from the box on the right and put it in the box on your left. The odds are $1 : 100$ that the



↑ Figure 1

Figure 2 ↓



red ball is now in the left box. The gamester then looks into the box on the right and sees either 99 blue balls ($1 : 100$) or 98 blue balls and the red ball ($99 : 100$). In either case he can and does remove 98 blue balls, taking them out of play. As in the puzzler, since the gamester can always do that he doesn't change the odds. For you the odds are still $1 : 100$ that the red ball is in the box to your left and $99 : 100$ that it is in the box to your right, even though there are now only two balls in play.

Now let's say a new person walks into the room and is told that one box contains a red ball and is asked to guess, his odds are different than yours, his odds are $1 : 2$! That is because he doesn't know the history and has a different frame of reference.

de AF6C



OCARC BOARD MEETING MINUTES 2012-03-10

The OCARC Board meeting was held at the JägerHaus Restaurant, 2525 East Ball Road, Anaheim, and called to order by President Paul Gusow W6GMU on Saturday, March 10, 2012. All directors were present except Carl N8AE, and Kristin K6PEQ. There were a total of ten members and visitors present.

DIRECTOR REPORTS:

- **VP** – Dee N8UZE reported that Carl N8AE had decided to resign his office as VP, because his new job prevented his attending either regular club meetings or board meetings.
- **Treas** – Bob AF6C reported that the OCARC had banking accounts totaling \$6,315. (See page 16 for a quarterly finance report.)
- **Sec** – No report.
- **Activities** – There are discussions centering on (a) a club beach party and cookout, (b) a club pancake breakfast, and (c) a club 4-wheel drive journey to Anza Berago. Doug W6FKX also noted that he will miss the March and April meetings and needs someone to fill in for him at the Opportunity Drawings. Jeff W6UX offered to handle the March meeting.
- **Publicity** – Tim K6GEP reported that he and Rick AE6RS set up a table for the OCARC at the Boy Scouts University session. They had an opportunity to talk to quite a few ScoutMasters who were attending the training sessions.

OLD BIZ:

- **Newsletter Editors**
 - April – Ken W6HHC
 - May – Paul W6GMU
 - June – Nicholas AF6CF (tentative)
- **FIELD DAY** – Dee N8UZE reported that Carl also needed to resign his position as FD chair, because of his new job. Dee said she was willing to take over the position of FD chair. She provided the following report of plans so far:
Team captains so far include:
 - 40M/15M – Tim K6GEP
 - 20M CW – Paul W6GMU
 - 20M PH – Ken W6HHC/Bob AF6C
 - 80M/10M – Dee N8UZE
 - GOTA – (Ken to check w/ Brett W6BAC)

- **Field Day – cont'd** – Doug W6FKX will chair FD food
Ken W6HHC will check to see if COAR RACES will captain VHF/UHF
A show of hands indicated that 8 attendees at the breakfast planned to help at FD.
- **Soldering Classes** – Bob AF6C reported that kits were purchased for the class. The first soldering class would be held March 31.
- **W6ZE LOTW Account** – Bob AF6C reported that Jeff W6UX would help him set up an account for W6ZE on Logbooks Of The World.
- **Home for OCARC Generator Trailer** – Ken W6HHC renewed his pleas to find a new home for the trailer used by club's old generator. A good discussion was of renting a storage space to hold all of the club possessions in one place. The problem with this approach may be the cost. 10Dx5Wx8.5H is \$1,300/yr. 10Dx8Wx8.5H is \$1,900/yr. 10Dx01Wx8.5H is \$2,150/yr.
- **OCCARO** – Our prez, Paul W6GMU, reported that the next OCCARO meeting to resolve issues about locations of the OC Fair Ham Booth is planned for April.

NEW BIZ

- **Honorary Members** – The OCARC Board members voted unanimously to appoint the following hams as Honorary Members of OCARC for 2012:
 - Chip Margelli – K7JA
 - Janet Margelli – KL7MF
 - Bob Heil – K9EID

GOOD of the CLUB

- **YUMA Ham Fest** – Nicholas AF6CF reported that he attended the ARRL SW Division Yuma Ham Fest. His own impression is that there were many Ham Fest vendors, but not many attendees to this ARRL ham fest.

Respectfully submitted by:
Ken Konechy W6HHC, Secretary



OCARC TREASURER'S REPORT**1st. Quarter****Jan 1, 2012 Through Mar 31, 2012****OPERATING ACCOUNT****OPERATING INCOME**

Dues 2012:
 Regular Member¹: \$820.00
 Family Member¹: \$60.00
 Teen Member: \$0.00

Club Badges:
 Badge: \$18.00
 Mailing: \$0.00

ARRL thru Club:
 New: \$39.00
 Renewal: \$0.00

Monthly Drawing:
 Ticket Sales: \$307.00

Soldering Class:
 Kits²: \$50.60

TOTAL: \$1,294.60**OPERATING EXPENSES**

Operations:
 CAL. Corp. Fee: \$20.00
 Insurance: \$300.00

Club Badges:
 Materials: \$0.00

ARRL thru Club:
 New: \$24.00
 Renewal: \$0.00

Monthly Drawing:
 Prizes: \$457.00

Soldering Class:
 Kits: \$75.70
 Supplies: \$7.73

Web Page:
 Hosting: \$35.97

Supplies:
 Postage: \$17.60

TOTAL: \$938.00**SAVINGS ACCOUNT BALANCE**

Jan 1 Statement Balance: \$2,300.04
 Moved from Checking: \$0.00
 Moved to Checking: \$0.00
 Interest: \$0.56
 Mar 31 Statement Balance: \$2,300.60

SUMMARY

January 1, 2012
 Savings Account: \$2,300.04
 Checking Account: \$3,867.06
Total: \$6,167.10

March 31, 2012
 Savings Account: \$2,300.60
 Checking Account: \$4,223.66
Total: \$6,524.26
Net Gain (Loss): \$357.16

CHECKING ACCOUNT BALANCE

Jan 1 Statement Balance: \$4,165.36
 Checks outstanding prior to Jan 1³: (\$298.30)
Jan 1 Checking Balance: \$3,867.06
 1st Qtr. Income: \$1,294.60
 1st Qtr. Expenses: (\$938.00)
Mar 31 Checking Balance: \$4,223.66
 Checks outstanding as of Mar 31: \$151.43
 Mar 31 Statement Balance: \$4,375.09

Notes:

- ¹ \$420.00 of 2012 dues collected in 2011 are not included in 2012 accounting.
² One kit not sold, one kit not yet paid for.
³ All 2011 outstanding checks have cleared.

73, from Treasurer - AF6C