The Prez Sez.....
By Kristin K6PEQ

PREZ SAYS:
How is it already November!?!? We are coming into the busy holiday season so be sure to mark your calendar for the Holiday party on Friday, December 10th! There is a flyer in the newsletter so make sure and check it out. We had an absolutely amazing auction again this year. Thank you so much for everyone’s donations and items to auction off. A special thanks to Chip, K7JA, for being our auctioneer again and getting us through all of that stuff!

We were bummed to cancel the potluck due to rain but hope to reschedule it soon! Thank you to all of the members for their understanding! Our November speaker is Wayne Barringer, KB6UJW, speaking on emergency communications preparedness. It is definitely one not to miss. We also have elections at the November meeting. Make sure to come and have your voice heard on who you would like to be in the leadership roles for this club! You can even throw your hat in the ring that night if you are interested! I hope you all have a great November and I look forward to seeing you at the meeting!

73,
Kristin, K6PEQ

The next general meeting will be:
Friday, Nov. 19th
@ 7:00 PM
We will be meeting in the east Red Cross Building, Room 208. The meeting for Nov. 19th will include a presentation on emergency communication preparedness by Wayne Barringer, KB6UJW. This meeting will also include the elections of the 2011 OCARC Board of Directors.
2010 Board of Directors:

President: Kristin Dankert, K6PEQ
(714) 544-9846
K6PEQ@w6ze.org

Vice President: Paul Gussow, W6GMU
(714) 624-1717
W6GMU@w6ze.org

Secretary: Kris Jacob, KC6TOD
(562) 619-8870
KC6TOD@w6ze.org

Treasurer: Ken Konechy, W6HHC
(714) 744-0217
W6HHC@w6ze.org

Membership: Loran Dargatz, AF6PS
(714) 777-9018
AF6PS@w6ze.org

Activities: Dan Dankert, N6PEQ
(714) 544-9846
N6PEQ@w6ze.org

Publicity: Robbie Robinson, KB6CJZ
(714) 978-8049
KB6CJZ@w6ze.org

Technical: Bob Eckweiler, AF6C
(714) 639-5074
AF6C@w6ze.org

Directors-At-Large:
Nicholas Haban, AF6CF
(714) 693-9778
AF6CF@w6ze.org

Larry Mallek, K6YUI
(714) 533-0887
K6YUI@w6ze.org

2010 Club Appointments:

W6ZE Club License Trustee:
Bob Eckweiler, AF6C
(714) 639-5074
AF6C@w6ze.org

Club Historian:
Bob Evans, WB6IXN
(714) 543-9111
bobev@netzero.net

RF Editor (rotating):
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(714) 742-2459
W6FKX@w6ze.org

WEB Master:
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W6HHC@w6ze.org

Assistant WEB Master:
Bob Eckweiler, AF6C
(714) 639-5074
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ARRL Awards Appointee:
Arnie Shatz, N6HC
(714) 573-2965
N6HC@aol.com

Larry Beilin, K6VDP
(714) 557-7217
K6VDP@aol.com

OCCARO Delegate:
Steve Brody, N1AB
(714) 974-0338
stevebrody@sbcglobal.net

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

145.400 MHz (-) PL 103.5 Hz
Thur-8:00 PM – 9 PM
Nicholas AF6CF, 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.
Heathkit of the Month #23:  
by Bob Eckweiler, AF6C

Heathkit HD -1416  
Code Practice Oscillator.

Introduction:  
The first electronic project I ever built as a kid was a code practice oscillator; the year was around 1957. The plans came from Popular Electronics, and it used a single Raytheon CK-722 germanium PNP transistor. Transistors were quite new on the market, and expensive portable transistorized radios in their leather cases were all the rage. Taking a portable radio to the beach no longer meant lugging large units with tubes and large “B” batteries.

Figure 1: The CK-722 Transistor  
Photo courtesy of N4MW

My first code practice oscillator had just a few components but it would drive 2,000 ohm ear phones at a decent volume and had a clean tone. It ran off a pair of AA batteries as I recall. I used it to learn the code and get my novice ticket in 1959.

Jump ahead some fifty-three years and I acquired another code practice oscillator (CPO); it was at the OCARC auction, and of course it was a Heathkit! The HD-1416 CPO.

Heathkit manufactured Three different models of transistorized code practice oscillators over the years. The first was the CO-1 which was manufactured between 1959 and 1967. In 1967 Heath replaced the CO-1 with the HD-16. Then in 1975 Heathkit introduced the HD-1416 which, over its life, was updated twice to the HD-1416A and the HD-1416H (case color changes only). All the Heathkit models came with a simple telegraph key.

The Heathkit CO-1:  
Heath’s first code practice oscillator, the CO-1 (figure 3) uses a single 2N238 germanium PNP transistor, not too different from the CK-722. A socket was used to hold the transistor, reflecting the fragile state of the early transistor. Figure 2 shows the simple circuit:

Figure 2: CO-1 Schematic with changes

Notice that the CPO drives a speaker and also has a switch that allows sending code using a light instead of a tone. The oscillator produces a tone around 1,000 Hz. A pair of “C” batteries power the CO-1.

The CO-1 measures 6” x 3” x 2–1/8”. The panel has a small speaker grill, a switch to choose light or tone, a small #14 pilot lamp for the light and screw terminals for a key.

Later in the production of the CO-1 (February of 1964) Heath made a design change to the CO-1. They changed the transistor to a 2N407 and added a 0.1 µF disc capacitor between the base of the transistor and ground - evidently to reduce key-clicks. The model number was not
changed, but an addendum was supplied with the manual as were the new parts. I have that addendum sheet if anyone is looking to upgrade their early CO-1. The circuit changes are shown in the figure 2 schematic of the CO-1 in red.

The Heathkit HD-16:
By 1967 the unijunction transistor had been introduced and became popular for a lot of oscillator devices. Heathkit took this opportunity to introduce a new CPO. The HD-16, shown in figure 4, utilizes a single unijunction transistor oscillator. The schematic is shown in figure 5. It uses a rather obscure GE 4JX5E670 transistor, which I believe is similar to the later popular 2N2646.

Like it’s ancestor, the HD-16 drives a speaker and can be switched to drive a lamp instead of a tone oscillator. The case has a sloping front (quite similar to the first case I built my CK-722 CPO into) and is styled after the SB ham line color scheme of green and grey. The #49 light is on top of the case, the high impedance (150Ω) speaker and light - tone switch are on the sloping front and the volume and tone controls, as well as 1/4” phone jacks for the key and phones are on the vertical part of the front panel. The HD-16 uses three batteries, two NEDA 1604 9V batteries for the oscillator circuit and one 1.5 volt ‘C’ battery for the lamp.
The Heathkit HD-1416:
The HD1416 was introduced in 1975. It is a three transistor circuit using two transistors as a multivibrator, and one transistor as a class A audio amplifier. The unit is built into a small plastic case with a metal front panel. A printed circuit board mounts off the front panel on a small angle bracket. The back of the case is open, and the speaker, mounted in an aluminum bracket, at an angle to horizontal, bolts to the circuit board.

The HD-1416 is powered by a 9 volt NEDA #1604 battery that mounts in the speaker bracket, held by four pieces of foam tape. Additional foam tape is located under the board to support the back of the printed circuit board.

The transistors used in the oscillator are a pair of 2N5249A silicon NPN transistors; the class-A audio amplifier uses an MPS-A20. A feature of the HD-1416 is that the keying arrangement allows it to be used with a ham transmitter using grid block keying (up to -400 volts), which most of the Heathkit transmitters/transceivers of the time utilized (such as the SB-400/401, HW-100/101, SB-100/101 to name a few).

The front panel is very simple with a 1/4” phone jack for phones, a volume control and two binding posts (red and black) for the key. A circuit board mounted control, easily accessible from the open back, of the cabinet, adjusts the tone from about 200 to 850 hertz. Unlike previous models, light for visual Morse code is included with this CPO. The telegraph key continues to be provided.

In late 1985 Heathkit introduced the HD-1416A with a brown case and black binding posts for the key. In 1989 Heath again changed the color to black and designated the CPO the HD-1416H.

The HD-1416A and HD-1416H featured a change in case color and binding posts.

Restoring the HD-1416:
This is a simple kit. The one picked up at the club auction did not work when I got home; also the speaker was loose, as was the circuit board. Removing the unit from the case revealed a missing screw from a bracket that
mounts off the lower banana jack. Another problem, probably the biggest, was that the five pieces of foam strips that hold the battery and help support the circuit board had dissolved into a gooey mess. It was carefully cleaned up with rubber cement thinner (hard to find now-a-days but a great solvent for lots of adhesives). The circuit board was examined and a wire from the earphone jack to the board was found to be broken. It was replaced. Finally, new closed cell foam, normally used to insulate windows, was trimmed to replace the original foam. No specifications or size could be found on the original foam other than the Heathkit part number 73-39. A “best guess” was used to trim the sizes. Reassembling the kit; installing a used 9-volt battery and attaching a key (the original key was not included in the auction sale) resulted in a sweet, though harmonic note of CW as the key was operated.

Tube Code Practice Oscillators:
(Ameco, Bud and Gonset)
Before the Heathkit ever put out a code practice oscillators there were numerous other manufacturers who produced numerous models. In the fifties and even into the seventies four tube-based models were very popular in the ham world.

Bud Radio manufactured two of the units, the Codemaster CPO-128A for $19.13 and the Codemaster CPO-130A for $16.50 (1962 prices). The two units were identical except the 130A required an external speaker. Bud also manufactured some variants of these models.

Ameco (American Electronics Company) manufactured the CPS that was available as a kit (-K) or built (-B) and with (T) or without (L) tubes; the price ran between $11.95 for a kit without tubes to $14.95 for a built unit with
tubes. Ameco also made code records and later code tape cassettes for learning CW.

Gonset manufactured the Monitone #3022 ($32.80 in 1962). It was similar to the other units but built to match their line of ham equipment.

All 4 units use a 3SW4 rectifier and a 50C5 audio amplifier vacuum tube, and run off 117 V AC/DC. They all feature a 4” speaker except the Bud CPO-130A. The Bud and Gonset units came ready to use as an on-the-air CW monitor; the Ameco CPS had instructions to modify the unit to add this feature (losing the normal feature). The differences in price reflect the the different components. While the inexpensive Ameco unit uses screw terminals for the key and phones, the Gonset unit has phone jacks and a rotary switch to select the function as either a CPO, a CW monitor or an AM monitor.

Early on, the Ameco and Bud units were a shock hazard because the rectified line voltage (about 140V) was present on the key terminals and contact with it while touching a grounded radio would give a good shock. Both units were updated during their production to put the key in the speaker lead and eliminate the shock hazard. Bud changed the part number to the CPO-128B, but Ameco kept the original part number.

If anyone has access to Popular Electronics of the mid to late fifties, I’d really enjoy finding the code practice oscillator article that used the CK-722 and that I built way back then.

Thanks - AF6C

Morse Code Update:

When was the last time the International Morse Code was updated? Some may think it hasn’t changed since the eighteen hundreds, some say it changed during WWI and others say during WWII.

The truth is the last change to the code occurred in 2004 with the addition of the at-symbol “@”. The need for this symbol came about due to the sending and receiving of email addresses over the air in CW.

The at-symbol is easy to remember as it is just the Morse letters A and C combined with no space: di-dah-dah-di-dah-dit.

de AF6C di-dah-dah-di-dah-dit w6ze.org.
Cyber Hamming
by
Doug Britton W6FKX

In this second installement of cyber hamming, I mined the internet for a couple of useful sites and provide a review of an application (app) I use on my DROID phone. I’m sure for the iPhone users, a similar app is available.

Websites:

http://www.californiaswap.net/index.php A California specific site for selling ham radio gear, or for posting a "wanted" listing. Were you outbid on that one item you wanted at our club’s auction last month? Here’s your second chance.

http://hfpack.com/ Have you considered putting together an HF rig and antenna in a backpack? Strike off for yonder ridge and work a few? Interesting site with information and interaction with like minded fellow backpacking hams.

DROID App:

I’ve been working on increasing my Morse Code proficiency and came across the following app: Morse Trainer Light (free app) and Morse Trainer ($2.49). When I’m not able to sit next to my rig at home, with this app I can practice while I’m driving (copying in my head of course) or anywhere with a set a earbuds or headphones. Both the free and paid app allows you to practice copying random letters, numbers, and punctuation; real call signs; fictional QSOs; or enter your own text. I’ve been practicing copying QSOs and have seen my speed and accuracy improve over the last month. The paid version gives you much more control over the settings of the app. Some of settings that can be adjusted in the paid version include: tone frequency, from 200 Hz to 2200 Hz; speed, can be adjusted from 2 wpm to 52 wpm (sorry its too slow for Chip); fading, simulates band conditions; and letter and word spacing. The free version doesn’t allow any of these changes. Highly recommended!

73, Doug W6FKX

LIST OF THOSE RUNNING FOR THE 2011 OCARC BOARD OF DIRECTORS

Others can be nominated to the list at the November meeting.

More than one person can run for any position on the board.

PRESIDENT -- Paul W6GMU
V. PRESIDENT -- Bob AF6C
SECRETARY —Ron W6FRV
TREASURER -- Ken W6HHC
ACTIVITIES -- Kristin K6PEQ
MEMBERSHIP —Jeff W6UX
PUBLICITY —Dan N6PEQ
TECHNICAL —Doug W6FKX
DIRECTOR AT LARGE—
Richard N6RU
Larry K6YUI

This list of suggested names is not final or “all inclusive” and it is subject to change at or before the November 19th Elections.

If you want to run for a position on the OCARC Board of Directors, please contact the Elections Committee Chairman Nicholas AF6CF (af6cf@w6ze.org).
Photos from OCARC 2010 Auction

“Best OCARC radio auction ever”
“158 items sold”
“$600 in net income for OCARC”

“Kudos for Chip K7JA and his helpers Dan N6PEQ and Nicholas AF6CF”
Thank You Chip, Dan, Nicholas, Ken and Bob!
Electromagnets:
Last month we talked about permanent magnets and ferromagnetic materials such as iron and cobalt. This month the discussion will begin on electromagnets.

Two months ago we learned that a wire carrying a current produces an electromagnetic field circularly around the wire as shown in figure 1.

![Figure 1: Magnetic Field around a wire](image)

The direction the field travels can be seen by holding a compass near the wire and examining the compass needle as noted by the open arrows. The compass needle will point in the north direction of the field. An easier way to determine the direction of the field is the Right-hand Rule (figure 2). It states:

If the fingers of the right hand encircle a conductor with the thumb pointing in the direction of current flow, the encircling fingers will point in the direction of the magnetic field. (Here current flow is defined as usual, positive to negative.)

A wire may be wound as a solenoid resulting in a stronger field along the axis of the solenoid.

![Figure 3: Magnetic field of a Solenoid Coil](image)

Figure 3 shows the cross-section of a solenoid coil. The current is going in the lower sections of the coil and coming out the upper sections. A field is produced around the wire; note that in between wires the fields are in opposite directions canceling each other. A stronger field traveling through the center of the solenoid results.

If the core of the magnet is made of a ferromagnetic material the result is an electromagnet that acts just like a permanent magnet as long as current continues to flow through the coil. You may use the right hand
rule around each turn of the wire to determine the direction of the field, or you can use a modified rule called the **Right-hand Rule of Solenoids**. It states:

*If the right hand grasps a solenoid such that the fingers point in the direction of current flow in the coil, then the thumb points in the direction of the magnetic flux (the north magnetic pole).*

**Ohms Law of Magnetics**

When a current 'I' is passed through a solenoid with 'N' number of turns it produces a magnetizing force depicted by a fancy $\mathcal{N}$. This force is known as the magnetomotive force and is the magnetic equivalent of electromotive force, or emf (voltage). It is measured in ampere-turns; abbreviated At.

$$\mathcal{N} = NI$$

The magnetic flux, which is often depicted by the Greek character $\Phi$, was discussed last month and is proportional to the magnetomotive force, just like the current $I$ is proportional to the voltage $E$ in an electrical circuit. In an electrical circuit the proportional constant is call the resistance $R$. In a magnetic circuit the constant is called the reluctance and is depicted by a fancy $\mathcal{R}$.

$$I = \frac{E}{R} \quad \text{Ohm’s Electrical Law}$$

$$\Phi = \frac{\mathcal{N}}{\mathcal{R}} \quad \text{Ohm’s Magnetic Law}$$

Actually $\Phi$ is a vector quantity and the right-hand rule is used to find the vector direction. Notice the similarity of equations!

The resistance of a bar or wire is just the length $\ell$ divided by the cross sectional area $A$, divided by the conductivity of the material $\sigma$. Thus for a given material the shorter or thicker the bar or wire the lower the resistance, and the longer or thinner it is, the higher the resistance.

$$R = \frac{\ell}{\sigma A}$$

Reluctance can be equated to magnetic resistance so:

$$\mathcal{R} = \frac{\ell}{\mu A}$$

And $\mu$ can be thought as magnetic conductivity, but in real life $\mu$ is called the **permeability**.

The permeability is made up of $\mu_0$ the permeability of free space multiplied by $\mu_r$ the relative permeability of the material:

$$\mu = \mu_r \mu_0$$

The permeability of free space $\mu_0$ is:

$$\mu_0 = 4 \pi \times 10^{-7}$$

The value of $\mu_r$ is very close to one for almost all materials that aren’t ferromagnetic. For ferromagnetic materials $\mu_r$ varies and can be quite large.

The permeability of ferromagnetic materials has some other interesting and important idiosyncrasies that are not evident in paramagnetic or diamagnetic materials.

Next month we’ll cover permeability and hysteresis in electromagnets.

*73, from AF6C*
Photos from OCARC Portables in the Park
November 6, 2010
Irvine’s Jeffrey Open Space Preserve

“Thanks to Jeff W6UX and Nicholas AF6CF for organizing the event!”
TAPR DCC2010 Presentations

download files are now available

by Ken W6HHC

Many OCARC members may already know that TAPR is an international organization dedicated to advancing Digital Technologies for ham radio. The ARRL and TAPR Digital Communications Conference (DCC) is an international forum for radio amateurs to meet, publish their work, and present new ideas and techniques.

Just a note that all of the ABSTRACTS and file download links for PDF copies of papers and/or presentations files from the recent TAPR DCC2010 are now available (free) on the TAPR web site at:

www.TAPR.org/pub_dcc.html

Not only are there a ton of goodies on papers on various subjects, like the presentation by Robbie-KB6CJZ and me on “Testing a Digital-ATV station using DVB-S”, but there is also an interesting DSP four-part course that was held on Sunday morning called “DSP - a short course”.

Thanksgiving humor….

Just a tidbit of information:

Call 811 before you dig, it’s free

As a SoCalGas customer, pipelines are likely to be located underground on your property. These pipelines are sometimes just inches below the surface. Before you dig for any reason, it’s important to know where natural gas pipelines are located. To protect your safety and avoid costly damage, please call 811 (toll free) at least two business days before you break ground.

Get more tips before you dig.

CHECK THIS OUT!

The next time you are at HRO check out the 2011 CQ Calendar… our very own members-the PEQ’s - Kristin & Dan Dankert’s HAM Radio Shack is featured in the NEWEST calendar!
Ham Cuisine

by Kristin, K6PEQ

Baked Ham with Brown Sugar Glaze
Perfect for a holiday feast!

INGREDIENTS:

6-8 pounds fully cooked smoked bone-in ham
1 cup packed brown sugar
Whole cloves
1 tbsp. cider vinegar
½ tsp. ground mustard

DIRECTIONS:

1. Heat oven to 325 degrees
2. Place ham, fat side up, on rack in shallow roasting pan. Insert meat thermometer in thickest part of ham, making sure not to rest in fat or against bone. Cover loosely and bake 1 ¼ to 2 hours or until thermometer reads 135 degrees.
3. About 20 minutes before ham is done, remove from oven. Pour drippings from pan and remove diamond shapes on fat surface of ham. Insert clove into each diamond. Stir together brown sugar, vinegar and mustard and pat or brush mixture onto ham. Bake uncovered 20 minutes longer.
4. Cover ham and let stand about 10 minutes or until thermometer reads 140 degrees.

Makes 12 servings or serves 8 hungry ham operators!
OCARC HOLIDAY PARTY

We are going to have a great December Raffle! There are a lot of great prizes and tickets are only a dollar. What a deal! Also, there will be a special raffle for just the ladies. These tickets will not be sold but will be given just for coming. We hope that you will be able to come and share in our fun event!

It's Time to Party!

ALL THE INFO!

WHEN: FRIDAY, DECEMBER 10th
TIME: 7 p.m.
COST: $24 per ticket
WHAT: Dinner, beverage, Dessert, Tax and Tip included in ticket price plus 1 raffle ticket.
WHO: Everyone!
WHERE: Jagerhaus Restaurant
RSVP: Please contact Kristin, K6PEQ by Friday, Dec. 3rd @ k6peq@w6ze.org or 714-544-9846.

RFS NEWSLETTER
Orange County Amateur Radio Club
www.W6ZE.org

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Jagerhaus
2525 East Ball Road off of the 57 Fwy.
The October OCARC Board Meeting, held at the Jägerhaus in Anaheim, was called to order at 8:18 AM by President Kristin - K6PEQ.

Roll call: All officers were present except the Secretary: Kristine - KC6TOD (in class) and Activities: Dan N6PEQ. Bob AF6C filled in for the Secretary and Kristin filled in for Activities.

Officer Reports:

VP: The November speaker will be Wayne Barringer - KB6UJW who will speak on emergency preparedness. November will also be elections for 2011.

Treasurer: So far this year the club has taken in $3,277.69 and spent $3,497.94 for a net loss of $220.25. With the big expense of Field Day over the treasury is in good shape. [The current balances are: $793.13 in savings and $4,563.20 in checking by my calculations. - AF6C]

Activities: Kristin reports that Chip Margelli - K7JA and Dan Dankert - N6PEQ will be auctioneers for the October auction. The pot luck is scheduled for October 30th. [See New Business] Portables in the Park is scheduled for November 6th. [See New Business] Holiday Party is scheduled for December 10th. [See Old Business]

Membership: 2010 full roster never published. Loran - AF6PS to email Ken - W6HHC a copy of the updated member spreadsheet. Bob - AF6C Reported that he has kept the online limited roster up to date.

Publicity: Robbie - KB6CJZ has auction flyers for HRO / Nicholas - AF6CF to take auction flyers to Ford Electronics.

MAL: Larry - K6YUI reports that with the dissolution of the Netherlands Antilles (PJ) there will be several new ARRL countries in the Caribbean. Read more about it in the ARRL Newsletter for October 7th on the ARRL web.

Old Business:

Speakers: All speaker spots are filled for 2010. Kristin would fill Jan. thru Mar. to give the new VP a jump on programs. Bob - AF6C Mentioned that the past years of OCARC programs are listed on our website, and is a good place to look for ideas. Kristin to email OCARRO list of speakers.

Auction: The room will open at 6 PM. Paul to confirm this with Tom - KI6GOA of the Red Cross.

Holiday Party: The holiday party is set for Friday December 10th. Grand Prize possibly an IC-7000. Women's prize baskets are being assembled. Cost to be $24 per person which includes one opportunity drawing ticket.

New Business:

Radio Picnic: Portables in the Park is scheduled for Saturday Nov. 6th at 9:00 AM at an open park in Irvine. Details are in the October RF Newsletter. Jeff - W6UX to check on park permission requirements and any rules.

Pot Luck: The pot luck will be held Oct. 30 at Dan and Kristin's. They will provide hot dogs and hamburgers. Larry - K6YUI will act as chief chef. Event starts at 1 PM.

Good of the Club:

Ken - W6HHC reports that two members now have digital ATV transmitters (KB6CJZ and W6HHC). A tune up session was held for the transmitters at Nicholas - AF6CF’s home.

Adjournment:

A motion was made by Larry - K6YUI, and seconded by Paul - W6GMU to adjourn. The meeting officially ended at 8:55 AM.

Respectfully submitted by:
Bob Eckweiler - AF6C acting for: Kristine Jacob - KC6TOD

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<td>115.39</td>
</tr>
<tr>
<td>Field Day Food</td>
<td>871.94</td>
</tr>
<tr>
<td>Field Day Rental</td>
<td>242.85</td>
</tr>
<tr>
<td>Insurance Expense</td>
<td>320.00</td>
</tr>
<tr>
<td>Legal</td>
<td>20.00</td>
</tr>
<tr>
<td>Opportunity Drawing - Monthly</td>
<td>1,217.94</td>
</tr>
<tr>
<td>PO Box Rental</td>
<td>40.00</td>
</tr>
<tr>
<td>QSL Postage</td>
<td>43.09</td>
</tr>
<tr>
<td>Supplies</td>
<td>9.56</td>
</tr>
<tr>
<td>Web Site Hosting</td>
<td>143.88</td>
</tr>
<tr>
<td><strong>TOTAL OUTFLOWS</strong></td>
<td><strong>4,414.00</strong></td>
</tr>
<tr>
<td><strong>OVERALL TOTAL</strong></td>
<td><strong>444.94</strong></td>
</tr>
</tbody>
</table>
Attention Members!!!

Do you know a fellow ham that would be interested in joining OCARC? Do you have a friend that is curious about ham radio and wants to learn more about our hobby? Why not invite him or her to one of our exciting monthly meetings?!?! The meetings are fun, informative and entertaining. And don’t forget about the raffle prizes too. So bring a visitor to one of our meetings, and help your club expand!

Make sure to inform your friends of our club’s website, which is always kept up to date. Information on club meetings, activities and our newsletter archive make it a worthwhile site to surf! http://www.w6ze.org

2010 ARRL CONTEST SCHEDULE

<table>
<thead>
<tr>
<th>Month</th>
<th>Date</th>
<th>Contest Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>November</td>
<td>20 - 23</td>
<td>ARRL November Sweepstakes (Phone)</td>
</tr>
<tr>
<td>December</td>
<td>3 - 6</td>
<td>ARRL 160 Meter Contest</td>
</tr>
<tr>
<td></td>
<td>11 - 13</td>
<td>ARRL 10 Meter Contest</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>Rookie Roundup</td>
</tr>
</tbody>
</table>
The Desert Rats and the Palm Springs DX Club invite you to attend the 2nd annual $1 admission with raffle ticket.

**HAMFEST - RAFFLE - WINTER FIELD DAY**

Bring your ham gear to sell, no fee charged for selling if you bring own table and chairs. Maybe you only have one or 2 items for sale put it on our single items table with a sign and tell us your reserve price... (for a small commission to the club) ...we'll handle the sale.

**Saturday, January 29**
9:30 A.M. to 4:30 P.M.
http://www.desertrats.am

Talk-in frequency:
146.940 - PL 107.2
WD6RAT Desert RATpeater
Daily Nets Thursday thru Sat.
8 A.M. - Noon - 6 P.M.

**Directions:**
Take I-10 to Palm Drive Exit.
Turn onto Gene Autry Trail
(becomes Matthew Dr. as it crosses Hwy. 111)
Follow the RAT...
4193 Matthew Dr. is on left

Lots of vendors and exhibits! Check website for the most up to date list.

ICOM YAESU
Buds Engraving Alpine Antennas
Byonics Old Military Radios
EDS Emergency Pack
Ham Radio Outlet
Impulse Electronics

**Winter Field Day 2011 Special Event Station**

Email us for more info:
Peter Reinzuch VE7REZ~President of ‘the Desert RATS’ Club
ve7rez@desertrats.am
Evan DeRouen K6WF - EC Riverside County ARES
riversidecountyares@gmail.com
~Check ze Tweets @hamradio @RivCoARES

Admission only $1 includes 1 free raffle ticket!

Event Coordinators Gary Boskovich KD6QLT and Susie Boskovich KD6VJO 760-328-9662 sboskovich@dc.rr.com
Nearby Hotel: Holiday Inn, corner of Sunrise & E. Palm Canyon, Palm Springs 760-323-1711 call for best room rate.
RSVP: RV Dry Camping reservations for vendors: sboskovich@dc.rr.com Vendor Set-up time 7:00-9:00 AM
Just for fun

She would definitely have been a Ham!

First Class Mail
Time Dated Material.
Please Expedite!!

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