

ORANGE COUNTY AMATEUR RADIO CLUB, INC.

VOL. XLIII NO. 2

P.O. BOX 3454, TUSTIN, CA 92861-3454

FEBRUARY 2002

The Prez Sez:

by Cory KE6WIU

Hello to all!

Last month we had an excellent turnout for our General meeting. with an excellent presentation on LINUX and Ham Radio, given by Matt, K6LNX. Thank You Matt. Thanks also to those of you who joined us after the meeting at the El Ranchito for some good old fashioned rag chewing. For those of you not at the meeting last month, we have reinstated the tradition of going out after the meeting "Just for the heck of it." We currently meet at Avila's El Ranchito Restaurant on 1st St between Golden Circle and Tustin, just around the corner from the Red Cross. Please consider joining us after the next meeting, we'd love to have you! Also we have a Not-So-Dxpedition campout planned for March, at Kamp-Anza RV Park, Anza, CA. If you're into radios, campfires, and fun this may be an outing for you! More details at the meeting, on the web, or contact Frank, WA6VKZ.

That's about it for now from my end, see you at the meeting.-- 73 Cory

Fried Heyn - WA6WZO elected ARRL Third Vice President

Fried Heyn, WA6WZO, of Costa Mesa had served as our ARRL Director for the Southwest Division for 18 years. Fried is also a current member of the OCARC and had served as the president of the OCARC in 1977.

At the ARRL Board Meeting in Fort Worth, Texas, January 18 and 19, the Board elected former Southwestern Division Director Fried Heyn, WA6WZO, as Third Vice President of the American Radio Relay League. Heyn will replace incumbent Third VP (and former Roanoke Division Director) John Kanode, N4MM, who also was a candidate.

Your editor believes that Fried did an outstanding job as SW Division Director for many years. He has worked hard for Ham Radio and supported local radio clubs throughout the huge SW Division.

FEBRUARY PROGRAM IS

The February program speaker will be John Spencer - K7KF, who will provide a presentation entitled:

"Contesting with a Large Antenna Farm"

Come take a slide-show tour of a Ham's "dream antenna farm"!! John built a contest station with the antenna layout to give it a big-edge in the farm country of Kansas. Expect to see some "eye popping" antennas that will be enjoyed by one and all.

The next regular meeting will be:

Friday, Feb 15th 2002 @ 7:30 PM

We will be meeting in Room 208 in the east Red Cross Bldg.

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THE ORANGE COUNTY AMATEUR RADIO CLUB, INC.

P.O. Box 3454, Tustin, CA 92781



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Bob Buss, KD6BWH (714) 534-2995

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2002 Club Appointments:

W6ZE Club License Trustee:

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Art Dillon, KE6WOX (714) 997-2078

OCCARO Delegate:

Bob Buss, KD6BWH (714) 534-2995

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Monthly Events:

General Meeting:

Third Friday of the month at 7:30 PM American Red Cross (near Tustin Ave & 4th St) Santa Ana, CA

Club Breakfast:

First Saturday of the month at 8:00 AM CowGirl's Cafe, Too 2610 S. Harbor Blvd (just south of Warner) Santa Ana, CA

Club Nets (Listen for W6ZE):

Wednesday Evenings

28.375± MHz SSB 7:30 PM - 8:30 PM Bob AF6C, Net Control

146.55 MHz Simplex FM 8:30 PM - 9:30 PM Bob, WB6IXN, Net Control

VISIT OUR WEB SITE

http://www.w6ze.org

for up-to-the-minute club information, the latest membership rosters, special activities, back issues of RF, links to hamrelated 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 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 charge if you'd like to have your badge mailed to you.

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Tech Talk #14 Ohm's Power Law by Bob Eckweiler - AF6C

(This is the third part of a Tech Talk series to review Ohm's Law)

In December we looked at Thevenin's theorem and how it made solving more complex circuit problems easier. This month we'll look at Ohm's power law. This law fits so closely with the Ohm's law we studied in the past two articles that they are often grouped into the "six forms of Ohm's law" (actually there are twelve!). Let's list the three forms of Ohm's law we know so far. They are:

$$E = I \times R$$
 (1)

$$I = \frac{E}{R} \tag{2}$$

$$R = \frac{E}{I}$$
 (3)

Ohm's power law introduces a new term – power, often symbolized by a P or W (for watts). We will use W. Ohm's DC power law states: that the power in watts dissipated in a resistance (or load) is equal to the voltage across the resistance times the current flowing through the resistance. In equation form it is simply:

$$W = E \times I$$
 (4)

Like equation one, this equation can be written in two additional forms by rearranging the terms. Equation five states: that the voltage across a resistance (or load) is equal to the wattage being dissipated in the resistance divided by the current flowing through the resistance.

$$E = \frac{W}{I} \qquad (5)$$

The other form of equation four, which, we'll note as equation six,

states that: the current flowing through a resistance (or load) is equal to the wattage being dissipated in the resistance divided by the voltage across the resistance.

$$I = \frac{W}{E} \qquad (6)$$

You now have seen the classic "six forms of Ohm's Law". Many ways have been developed to remember them - wheels, mnemonics, etc. I've never bothered with any of them nor have I made an effort to memorize the six equations; instead I've only memorized equations (1) and (4). From those two it is simple manipulation to get the four others as well as six additional forms that are often very handy.

Getting Ohms Law Into the Form You Want:

Let's do a simple problem. What is the power dissipated by a one-ohm resistor when one volt is across it? The problem gives us the voltage but we need to know the current through the resistor. Using Ohm's law equation two it may be calculated as one amp. Then, using equation four the power dissipated by the resistor may be calculated as:

$$W = (E \times I) = (1 \times 1) = 1$$
 watt.

Now, let's raise the voltage across the one-ohm resistor to two volts; you might expect the power to double, but be careful. Calculating the current again, we find the current is now two amps, so the power is now:

$$W = (E \times I) = (2 \times 2) = 4$$
 watts.

Similarly, if we change the current through the resistor to 2 amps, the voltage across the resistor will increase to 2 volts and the power will be 4 watts. When you change the voltage or current through a fixed resistor the power dissipated by the

resistor changes by the square of the voltage or current change. In the above examples we had to solve two equations to find the wattage. Wouldn't it be nice if that could be done using only one equation?

When I started this series, I promised to not get into math too heavily. I'm going to renege on that promise a little in this section. Feel free to skip it, but it is really very simple, and once you master it you will find that you don't need to memorize as much for that test you're taking, or for that problem you're solving. The trouble with memorizing is: if you don't use it occasionally you'll forget it. Here's how to find all twelve equations when you only know the two basic equations (1 and 4).

Notice that between equations one and four, all four items: voltage (E). current (I), power (W) and resistance (R) appear (voltage and current appear in both!) You must know the value of two of the items to find either of the other two. Since each of the Ohm's Law equations only has three items in it, there is one item you don't care about. What you want to do is end up with a formula that has the two known items on one side of the equal sign (usually the right side) and the unknown item you're looking for on the other side (usually the left side). If the three items of interest are all found in either of the two equations (1 or 4) then you only need that equation. If the equation isn't already in the form mentioned above, divide both sides of the equation by the item you know that is on the longer side of the equation (the side with two items).

For example, let's say we know the values for E and I and want an equation to calculate R.

- -see TechTalk cont'd on Pg 4 --

Tech Talk #13 Cont'd from Pg3

All three of these items appear in equation one, but it is not in the form we want:

$$E = I \times R \qquad (1)$$

We want to get this equation into the form where R is alone on one side of the equation. Since 'I' is the item that we know that is on the longer side of the equation, we'll divide both sides of the equation by 'I' like so:

$$\frac{E}{I} = \frac{I \times R}{I} = \frac{I}{I} xR$$

Since I / I equals one, the 'I's on the right side cancel out and we get:

$$\frac{E}{I} = R$$

After swapping the left and right sides we get equation (3), which is the one we want.

If the three items we want in our equation appear only when we look at both equations, the process is similar but has additional steps. First, determine the item that you don't need and arrange either of the equations it appears in so that it appears by itself on one side of the equal sign; this is just what we did above. Then we just substitute that equation for the unwanted value in the other equation.

As an example let's look back at the example where we wanted to know

the power dissipated in a one watt resistor when the voltage across it is known. We know 'E' and 'R' and want 'W', but we don't care about 'l'! Thus we can rearrange equation one by dividing both sides by 'E', and get equation 2. Now we just replace 'l' in the second equation (4):

$$W = E \times I$$

$$W = E \times (\frac{E}{P})$$

Here's another example; we want the equation to solve for the power 'W', and we know the resistance 'R' and current 'I'. The voltage (E) is the item that we don't need. I'll start with equation (4) and arrange it to solve for 'E'. Equation one could just as easily been chosen):

$$W = E \times I$$
 (4)

Dividing both sides by 'I'

$$\frac{W}{I} = \frac{E \times I}{I}$$
 or $E = \frac{W}{I}$

Now, substitute the equation we just solved for 'E' in the other equation (equation one):

$$E = I \times R$$
 (1)

$$\frac{W}{I} = I \times R$$

And rearrange it so 'W', the unknown item you want to solve for, is alone on one side of the equation. This is done similarly except, since there is a dividing term ('I' in this case) you multiply both sides by the dividing term.

Let's simplify it now; first multiply both sides by 'I':

$$I \times \frac{W}{I} = I \times (I \times R)$$

0

$$(\frac{I}{I})xW = (I \times I) \times R$$

Remember - any value divided by itself is one so:

$$W = I^2 \times R$$

When solving a couple of the equations you will end up with a "squared" term in the answer. One such case is when you want to know the voltage and have the power and resistance. Solve this as was done in the previous exercise up to the point where you get:

$$E^2 = W \times R$$

Now just take the square root of either side:

$$E = \sqrt{W \times R}$$

Table 1 (below) presents all twelve forms of Ohm's law. See how many you can derive from the two main equations one and four? Notice that the less popular "other six" forms of Ohm's law all have either a square or square-root term. Perhaps that is why they are less popular! Spend a little time playing around getting from one equation to the other and you'll soon be able to get Ohm's law in the form you want easily.

$E = I \times R \textbf{(1)}$	$I = \frac{E}{R} \textbf{(2)}$	$R = \frac{E}{I} \textbf{(3)}$	$W = E \times I \textbf{(4)}$
$E = \frac{W}{I} \textbf{(5)}$	$I = \frac{W}{E} \textbf{(6)}$	$R = \frac{E^2}{W} \textbf{(7)}$	$W = I^2 \times R $ (8)
$E = \sqrt{W \times R} \textbf{(9)}$	$I = \sqrt{\frac{W}{R}} \textbf{(10)}$	$R = \frac{W}{I^2} $ (11)	$W = \frac{E^2}{R}$ (12)

Table 1 - The Twelve Forms of Ohm's Law

In the next Tech Talk Series on Ohm's Law, we're going to use Ohm's law in some practical ways and get a better feeling how it can be used in day-to-day problems. As part of the discussion we'll talk about short circuits, charging NiCad batteries and common car problems.

"Not-So-Dxpedition" Campout by Frank WA6VKZ

The Not-So-DXpedition campout, near the Anza-Borregio Desert (about 101 miles from the City of Orange), is planned for Friday, March 8, and Saturday, March 9. Leave Sunday morning.

Held at the KAMP-ANZA R.V. Park, on Terwilliger Rd, this is a informal fun camp out where we bring our radios, antennas, masts etc. Set up a station of choice and operate to your hearts desire. Enjoy the group meals and top it all off with a campfire get together before you crawl into the sleeping bag

Driving instructions are:

- Go East on the 91 FWY to the Interstate-15 FWY
- Turn South on I-15
- Go past Murietta and Rancho California to
- I-15 & Ca-79 South (Indio) to
- Ca-79 & Ca-371 East to
- Kirby Road Right turn (well marked)

- follow hard top road through left turn and then a right turn
- the ANZA RV Park campground is on left about 1 1/4 miles on left
- Distance is approximately 101 miles.

See map on this page.

More info is on our WEB SITE. Please RSVP to Frank Smith for even more info at wa6vkz@msn.com or by phone at (909) 763-0907.

Wednesday Nets

January Check-ins (Both 10–meter & 2M nets):

KD6BWH AF6C KB1GZ K6CCD W6HHC K3IMW KQ6JD WB6IXN W6KFW K6LDC AA6QV KF6LEX N6TEZ **KB6TWA** KE6UCH K6VDP **KE6WOX** KE6WIU N5YR.J

Check WB6IXN's **Net News** page on: http://www.w6ze.com

January Meeting Minutes:

The January general meeting was started with the pledge of allegiance given at 7:32pm. Steve Brody-KG1BZ of Orange was introduced as a new member. The Jan program speaker Matt K6LNX gave a presentation on Ham Radio & Linux. This presentation is available online, linked to from our Internet homepage at www.w6ze.org. Matt also had some free copies of Linux to distribute, along with some Linux magazines.

Vice President:

Next presentation will be on DXing using a large antenna farm.

Treasurer:

Treasurer Al-N6TEZ was absent.

Membership:

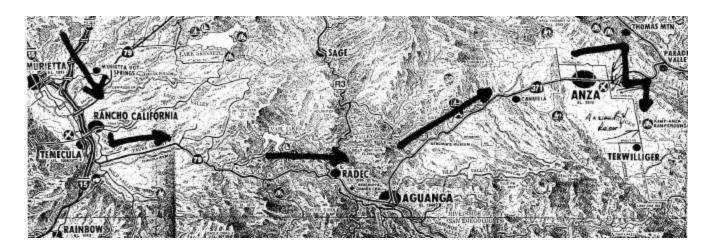
We have 66 members on roster, with 5 new members for 2002.

Activities:

There were 4 grand prizes for the raffle- 3 Linux distributions donated by Matt K6LNX and the 2002 ARRL Handbook.

Publicity: Nothing to report.

- -see Gen Minutes cont'd on Pg 6 -



General Meeting Minutes

Continued from Pg 5

Technical: Nothing to report.

Members At Large:

Larry said that we had a good 1st breakfast meeting for 2002, and Cory mentioned that we should have the room to ourselves next time. At the January meeting we had to share the back meeting room at Cowgirls Too restaurant with another noisy club.

Old Business:

Baker-to-Vegas joint Orange, Garden Grove, Cypress team possible. Main focus will most likely be with city of Orange team.

We are still waiting on word from Cypress, they have their own base ops but could use more mobile ops. The race will be held April 20-21 2002.

Any further questions about the race should be directed to Bob KD6BWH, OCCARO delegate and B2V committee chairman for OCARC. A presentation to general membership will be given once details are organized.

There is a campout gathering @ Kamp Anza RV Park set for March 8-9-10. The cost is \$16 per campsite, with 4 tents each. The facility includes services for all utilities but disposal at each campsite, there is a central disposal facility. Map to Frank WA6VKZ house be posted online, please RSVP to Frank wa6vkz@msn.com.

OCCARO- Orange County Ham Convention: There will be a convention in 2003 in Los Angeles. Thus 2004 will be best for an OC convention. OCCARO is trying to get enough clubs together to get enough manpower to stage this event.

New Business:

There is a Slow CW net (10-15wpm) forming, contact Ian K3IMW for further details.

A RedCross group might want to piggy-back with OCARC for Field Day. Also, a new park is being constructed in Orange, and there is a possibility to reserve it for future Field Day operations. Cory mentioned that we will be sure to keep the Portola Park site in Santa Ana for now, since we worked so hard to get it, until further details are known about the future park in Orange.

Bob AF6C mentioned that ARRL members should use the arrl.net reflector for email, so we can keep track of email easier, instead of regular address from your ISP which can change.

Good of the Club:

Bob KD6BWH proposed that we create signs to point to the meeting room in the Red Cross Building, some people have had difficulty finding the room. We meet in Room 208, the Anaheim Room.

As proposed at the January board meeting, there will be a night cap after the meeting at El Ranchito restaurant on 1st & Golden Circle. This will be a new tradition to inspire more unity in the club.

Larry K6LDC said that some people mistakenly think that the monthly breakfast meetings are for board members only, which is untrue. The board meeting is held at the breakfast but all members are welcome. The breakfast meetings are held on the first Saturday of every month at Cowgirls Too Cafe in Santa Ana, directions are on our website.

Motion to adjourn by Larry K6LDC, 2nd by Bob AF6C.

Meeting was adjourned at 9:18pm.

Respectfully submitted,

Matt K6LNX Secretary

February Board Meeting Minutes:

The February board meeting was called to order at 8:10am on Feb2. All board members were present except for Phil N7PA and Frank WA6VKZ.

VP:

Speaker for February general meeting will be John Spencer, with a program about DX'ing and large antenna farms. Possible speaker for March is Dennis Kidder.

Secretary: Nothing to report.

Treasurer:

Expenses are now being tracked with Quicken 2001, no reason is seen to upgrade to Quicken 2002.

Old Business:

Campout/Not-so-DX'pedition: Cory KE6WIU will write up a short summary about this campout to show to the general membership.

Laminator: New badges have been made using our new laminator, including some officer's badges. If you ordered a badge and have not yet received it, please contact Bob AF6C. Club badges cost \$3. The supplies for creating badges with our laminator need replacing, and Bob reports this will cost approximately \$50. Purchase of new supplies was approved. Bob said that members could also have him laminate a copy of their license.

New Business:

Raffle: At the end of the general meeting in January, we held our first raffle of the new year. There was a problem and Bob AF6C lost out on the grand prize which he should have been awarded. The board has decided to address the issue so this doesn't happen again.

-see Board Minutes cont'd on Pg 7

WHOis -- the Club Vice Pres? by Ken W6HHC

(This is the second in a series of articles to inform you about the background of the officers and leaders of the OCARC.)

The new Vice President for OCARC in 2002 is Lowell Burnett - KQ6JD. Lowell received his first HAM ticket in 1996 as KF6BGT and has been a member of the OCARC since 1998. Lowell's QTH is Orange. At his QTH he uses a Kenwood TS-570D rig on the low bands, running 100W to a "portable" Cushcraft MA5V (20Mthru 10M) vertical antenna. In the attic he also has a trap-dipole for 10/14/20M. On the high-bands from home, Lowell uses an TM-733 from Kenwood on 2 Meters and 440 MHz using a Cushcraft 270 (2/440) vertical antenna. When he is mobile in his bright RED Cougar he takes the TM-733 using a Comet SBB-7 on 2M and 440.

Lowell's favorite HAM activities are rag-chewing, club nets, Field Day, and helping COAR, the RACES organization in the City Of Orange.

He was born in California and then moved to Gabbs, Nevada. He then spent 24 years in Navy as an avionics specialist. Including spending he last 5 years in the Navy stationed in Hawaii!!! This year, Lowell just retired from Boeing/McDonnell-Douglas in Long Beach as Instrumentation Technician.

His favorite non-HAM activity includes going to Laughlin (to "invest" his money??) with his wife, Mary. Also, now that he is retired, he plans to do more traveling.

Lowell certainly enjoys talking to people (a sign of a good HAM), so make sure you come up to him at the next meeting or club breakfast and ask him about his new backyard vertical....and why is it "portable".



Above is photo of Lowell-KQ6JD at his "low-band" operating position.

-Board Meeting Minutes-

Continued from Pg 6

Raffle (cont'd) Larry K6LDC made a motion to change the procedure of the raffle so that there is no special drawing for the grand prize, the prizes will just be given out first win, first pick. So the first winner will be able to choose anything he/she wants, including but not limited to the grand prize. This change will be announced at the next general meeting so that there is no confusion. Larry K6VDP seconded the motion, and it passed unanimously.

Also the board wanted to compensate Bob for not getting the prize he deserved from the raffle. The board decided that he would receive a 2002 ARRL Handbook, the same as the grand prize in the January raffle.

Cory suggested the possibility of putting some kind of Ham related software into the raffle every month or every other month, since the copies of Linux donated by Matt K6LNX for the January raffle sparked such an interest.

Reminders:

Corv wanted email reminders sent to the members to notify them of upcoming board meetings and general meetings. The breakfast board meetings are open to all members. however only the board members vote on board related issues. Ken will continue to put reminders

about the general meetings in his announcements about the RF newsletter, and Matt K6LNX will send reminders about the board meetings.

Online Applications: Membership officer Chris W6KFW wanted to clarify what happens to membership applications submitted online, since there is no way to pay the dues online. Any application, sent by mail, in person, or online, will remain as pending until payment of dues is received. Dues must be paid by mail or in person, by cash, check or money order made out to Orange County Amateur Radio Club. Regular dues are \$20 per year. Ken W6HHC suggested sending out a welcome message by email to new members.

Baker to Vegas: Cory would like to limit discussion on the upcoming Baker to Vegas race during the general meetings, since not all members are participating. It is suggested that only about 10 minutes are spent during the general meetings to report any new information, but any planning and other such activities should be done separately.

-see Board Minutes cont'd on Pg 8

-Board Meeting Minutes-

Continued from Pg 7

Baker to Vegas: (cont'd) Members who are participating in the B2V race will be able to convene during the break at the general meetings, and there are also separate committee meetings planned. Bob KD6BWH will make an announcement at the next OCARC general meeting so that everyone will know what the Baker to Vegas race is all about.

World Radio: Our club receives a number of 1-year subscriptions to World Radio magazine, which are put into the raffles periodically. Al N6TEZ will look to see if we have any currently.

Printed RF: Due to costs of postage and printing, the board discussed the possibility of a surcharge, in addition to the regular dues, for those members who wish to receive the RF newsletter in print. Printing and postage amounts to approximately \$1 per copy per month. All members can currently receive the RF newsletter either through US-mail, or access it via our website www.w6ze.org, as part of their

regular dues. The discussion was not band to 3725 kHz on 75M but leave it at voted upon. The Board is looking for 21,200 kHz on 15 meters. feedback from club members on how to act on the discussion.

The meeting was adjourned at 9:07am.

Respectfully submitted, Matt K6LNX - Secretary

ARRL Adopts Modified Novice Band Refarming Plan

The ARRL Board of Directors has adopted a modified proposal to refarm the Novice bands, now that the FCC no longer issues Novice licenses. The Board met January 18-19 in Fort Worth.

The ARRL Novice Spectrum Study Committee had proposed allowing Novice and Tech Plus licensees to operate CW on Generalclass 80, 40, 15 and 10-meter CW segments at up to 200 W output. The panel recommended refarming the current Novice/Tech Plus CW subbands, in part to allow expansion of phone allocations on 80, 40 and 15M

The Board approved a modified plan. The amended plan would drop the US phone

The 75M proposal would expand the phone band by 50 kHz for Generals over the present allocation and by 25 kHz for Advanced and Extra licensees. On 15M, Generals would get another 25 kHz of phone spectrum, but phone privileges for Advanced and Extra class operators would stay the same.

The Novice Spectrum Study Committee's original recommendations for 40 and 10 meters were accepted. The ARRL plans to propose the modified refarming plan to the FCC later this year.



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